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Gymnopus Notebook 3

L. R. Hesler

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GYMNOPIIUS FILICEUS (Cke.) Sing.

(Sydowia 9:411. 1955)

On stem of fern tree, Holly Lodge, Highgate, 1862.

The Type from Kew

(Two basidiocarps: pileus scaly).

Spores 6-8.5 x 4.5-5 μ , ellipsoid, slightly inequilateral, ferruginous in KOH, not dextrinoid, verruculose, no germ pore. Basidia 20-24 x 5-6 μ , 4-spored. Pleurocystidia not found; cheilocystidia 24-32 x 5-7 μ , flask-shaped or ventricose, non-capitate, rare and difficult to find. Pileus trama of interwoven hyphae, becoming vesiculose. Cuticle not greatly differentiated from the trama, surface bearing fascicles of brown, slightly incrustated hyphae (scales), the terminal elements sometimes slightly differentiated — as cylindric or clavate pileocystidia, 34-40 x 5-6 μ . Caulocystidia 20-30 x 4-6 μ , flask-shaped, ventricose, or obclavate, non-capitate, gregarious. Clamp connections present.

Singer (1955) states that it differs from G. chrysopellus in the shape of spore ornamentation, closer lamellae, and perhaps the structure of the squamules, and the shape of the cheilocystidia.

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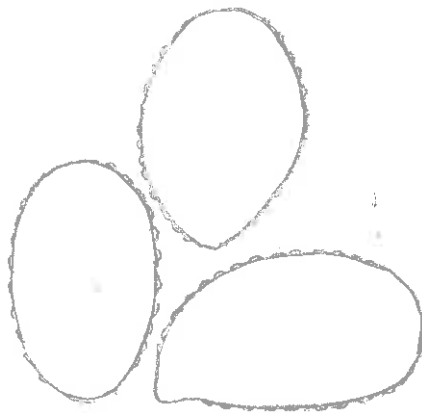
Gymnopilus filiceus

Type from Kew

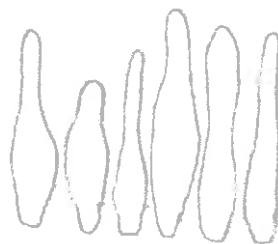


Ch - x 1000

PL (not found)



Spores - x 4000



Carls - x 1000

FLAMMULA FLAVIDA

[Pholiota flava (Schaeff. ex. Fr.) Sing.]

Coll. Romell, No. 9872, Stockholm, Oct. 1, 1920 (S)

Spores 8-9.5 (10.5) x 4.5-5 μ ellipsoid, smooth, germ-pore minute, brownish in KOH, yellowish brown in Melzer's. Pleurocystidia ventricose, 36-44 x 6-8 μ ; cheilocystidia 28-37 x 6-8 μ , ventricose. Pileocystidia and caulocystidia not found. Cuticle a gelatinous zone resting on a brown hypodermium.

FLAMMULA FLAVIDA

(Pholiota flavida [Schaeff. ex. Fr.] Sing.)

Coll. Romell, No. 9804, Stockholm, Sept., 1915 (S)

Spores smooth. Also other characters of Pholiota.

GYMNOPIIUS FLAVIDELLUS Murr.

On chestnut stump, N. Y. Botanical Garden, leg. Murrill,
September 9, 1911.

TYPE

Spores 7-9 x 4-5 μ , ellipsoid in face view, slightly inequilateral in profile, verrucose, no germ pore, dextrinoid at once or soon. Basidia 20-26 x 5-6 μ , 4-spored. Pleurocystidia 25-36 x 6-7 μ , flask-shaped, neck more or less capitate, scattered, few, more numerous toward the edges; cheilocystidia 25-40 x 4-6 μ , slender-clavate or more commonly flask-shaped-capitate. Gill trama of slightly interwoven hyphae 3-6 μ broad. Pileus trama radial. Cuticle of repent, brown hyphae, with more or less erect epicuticular, brown, somewhat incrustated hyphae. Clamp connections present. Caulocystidia 36-65 x 4-6 μ long, slender (filamentous), capitate, forming a turf. Pileus and gill trama yellowish brown in KOH; reddish brown in Melzer's reagent.

Yellow pigment, ~~in~~ soluble
in KOH, present in gill trama, pileus trama, & stipe.

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On chestnut stump, N. Y. Botanical Garden, leg. Murrill,
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Gymnopilus flavidellus Murr.

Type



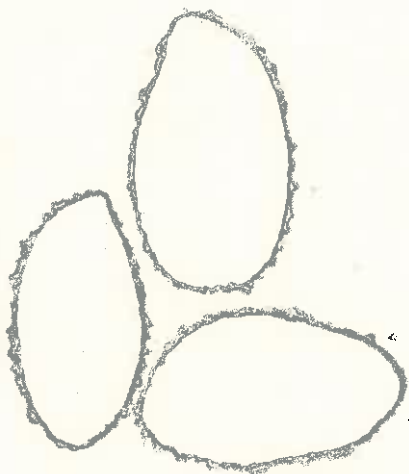
Pl. - x 1000



Ch - x 1000



Spore x 8000



Spores - x 4000



Caulo - x 1000

GYMNOPIIUS FLAVIDELLUS Murr.

Singer (Sydowia 9:408-409. 1955) places G. amarissimus var. subdryophilus as a synonym of G. flavidellus. (I disagree; compare dextrinoid spore character).

For flavidellus, he says "veil none"; Murrill describes a veil, and I found one in Tenn. collections. Singer's description of flavidellus would seem to apply to some species other than flavidellus.

Tenn-14057

GYMNOPIUS FLAVIDELLUS Murr.

On chestnut chips, Elkmont, Tenn., GSMNP, Nov. 2, 1941

cespitose,
Pileus/2-4 cm broad, convex-plane, not viscid, appearing appressed-fibrillose (under lens), "antimony yellow" (young), darker (mature; not matched). Context whitish to pale yellowish, thin except on disc; odor pungent, of radish; taste bitter.

Lamellae adnate-decurrent, medium broad, close, yellowish, many short, edges rough (denticulate).

Stipe 3-6 cm x 3-6 mm, often compressed, tapering at base (when crowded), pallid, apex mealy, elsewhere white appressed-fibrillose, stuffed then hollow, dry. Veil none observed.

Spores 7-9 x 4.5-5.5 μ , ellipsoid or subovoid in face view, slightly inequilateral in profile, wrinkled-rough. (finely verruculose), no germ-pore, color in deposit: "antique brown," ^{dextrinoid at once.} Basidia 27-36 x 7-8 μ , 4-spored. Pleurocystidia 25-30 x 5-7 μ , ventricose, rare and inconspicuous; cheilocystidia 23-38 x 3-6 μ , filamentous, subventricose, flask-shaped, often subcapitate. Gill trama subparallel, hyphae 4-8 μ broad. Pileus trama radial. Cuticle of several layers of repent brown hyphae. Clamp connections present. Caulocystidia similar to cheilocystidia, 45-63 x 2-6 μ , scattered or in tufts. Pileus and gill trama yellowish in KOH; rusty brown in Melzer's reagent.

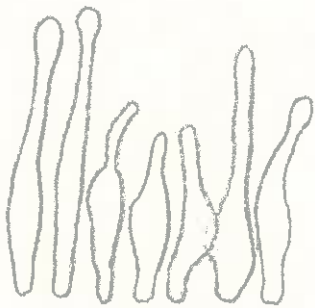
This agrees with the type very well, except the pilei are somewhat darker when dried than in Murrill's type material.

Gymnopilus flavidellus Murr.

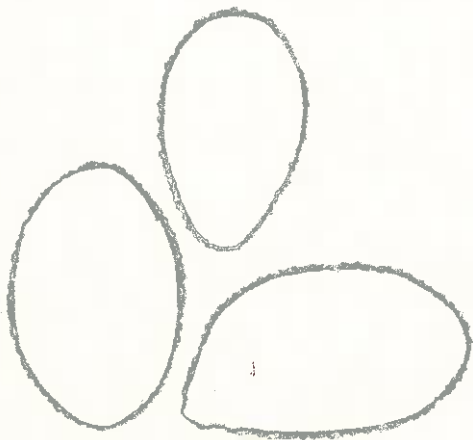
Tenn - 14057



Ph - x 1000



Ch - x 1000



Spores - x 4000



Caulo - x 1000

Tenn-14779

GYMNOPIIUS FLAVIDELLUS Murr.

On humus (buried wood, etc.) in mixed woods, New Hopewell,
Knox Co., Tenn., Nov. 5, 1942

Pileus 2-4 cm broad, convex, expanded-convex, slightly hygrophanous, not viscid, "ochraceous orange," darker when old and dry, glabrous, margin even. Context thin, pliant, tinged yellowish; odor earthy (not strong), taste bitter.

Lamellae adnate or adnate-decurrent to adnexed, seceding, close, narrow to medium broad, concolorous to pileus, edges fimbriate.

Stipe 2-6 cm x 2-6 mm, dingy brownish, equal or tapering downward, dry, glabrous, apex white-mealy, hollow.

Spores ~~ellipsoid~~ ^{dextrinoid}, 7-9 x 4.5-5.5(6) μ , ellipsoid, verruculose, in deposit: "sage brown," [^] All other characters as in Type.

Tenn-16153

GYMNOPILUS FLAVIDELLUS Murr.

On pine log, Gainesville, Fla., Jan. 23, 1944

Spores and other characters as in the Type.

Tenn-17145

GYMNOPIIUS FLAVIDELLUS Murr.

On saw-dust and chips, Highlands, Leg. L. R. Hesler, det. A. H. Smith,
September 11, 1945.

Pileus 2-3.5 cm broad, convex, expanded, wavy, hygrophanous, not viscid, "deep chrome" (dry), "tawny" (wet), with golden fibrils, glabrescent, margin even. Context rather thin, pliant, concolor; odor mild, taste bitter.

Lamellae adnexed, "cream color" (young), "warm buff" (mature), becoming brownish-stained, crowded, medium broad, broadest behind, edge eroded.

Stipe 2-4.5 cm long 4-6 mm thick, at times eccentric, pallid above, dingy brownish below, white fibrillose, flabrescent, dry, hollow. Veil white, fibrillose, evanescent.

Spores 7.5-9 x 4.5-5.5 μ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ pore. Basidia 24-28 x 6-8 μ , 4-spored. Pleurocystidia 25-30 x 4-7 μ , inconspicuous, ventricose, sometimes capitate; cheilocystidia 25-34 x 5-7 μ , flask-shaped, often capitate, commonly extending up the sides of the gills for about 100 μ . Gill trama subparallel, hyphae 4-8 μ broad. Subhymenium not distinctive. Pileus trama radial. Cuticle repent, surface hyphae brown, incrustated. Clamp connections present. Caulocystidia 25-42 x 2.5-6 μ , filamentous-capitate, clavate, in tufts, colorless.

Tenn-20250

GYMNOPILUS FLAVIDELLUS Murr.

On fallen pine limbs, Tallahassee, Fla., Dec. 26, 1951

Spores and other characters as in the Type.

Tenn-21077

GYMNOPIIUS FLAVIDELLUS Murr.

On soil, in oak woods, Wakulla Co., Fla., Dec. 26, 1953

Spores and other characters as in Type.

Tenn-21589

GYMNOPILUS FLAVIDELLUS Murr.

PHOTO

On fallen slash pine branches, Wakulla Co., Fla., Dec. 23, 1954

Pileus 2-5(6) cm broad, single or subcespitose, at first hemispheric-convex, expanding plane, often wavy and somewhat upturned, hygrophanous, not viscid, glabrous, "ochraceous buff" to "ochraceous orange," margin even, incurved and persisting so for a time. Context pallid, orange-buff next to cuticle; odor of radish (persisting when sections were made of dried material), taste bitter.

Lamellae adnate to subdecurrent, pallid-orange or pale yellow at first, finally "mars yellow" to "zinc orange," stained in age, close, medium broad, edges fimbriate.

Stipe 3-6 cm x 3-5 mm, dingy to pallid, tapering downward, fibrillose-striate, stuffed then hollow, easily splitting lengthwise, base white-mycelioid.

Spores 7-9(10) x 4.5-5.5 μ , ellipsoid to subovoid, minutely verrucose, in mass: "ochraceous tawny," ^{destrinoid at once.} Pleurocystidia scattered, at times rare, ventricose, 35-47 x 5-7 μ ; cheilocystidia numerous, flask-shaped, or cylindric-capitate, 22-40 x 4-6 μ .

Otherwise as in the Type.

Tenn-23776

GYMNOPIUS FLAVIDELLUS Murr.

On fallen oak limb, Cades Cove, Oct. 18, 1960

Pileus 1-3.5 cm broad, convex, expanding, hygrophanous, "ochraceous buff" to "ochraceous orange," appressed-streaked fibrillose, margin even. Context pale orange-buff; odor slight or mild, taste bitter.

Lamellae adnate-decurrent, pale buff then "ochraceous orange," finally more or less dingy brownish-stained, close, rather narrow.

Stipe 2-4 cm long, 2-3 mm thick, dingy ochraceous brown, with scattered fibrils, equal, solid then more or less hollow.

Spores 7.5-9 x 5-5.5 μ , ellipsoid or subovoid, inequilateral, verruculose-wrinkled, no germ-pore. Basidia 22-25 x 6-7 μ , 2-4-spored. Pleurocystidia ^{inconspicuous} none; cheilocystidia 24-32 x 4-7 μ , flask-shaped, capitate, rarely brown. Gill trama subparallel, hyphae 5-10 μ . Pileus trama radial and slightly interwoven. Cuticle repent. Pilocystidia none. Clamps present. Caulocystidia 33-54 x 3-5 μ , filamentous or slightly ventricose, often more or less capitate, scattered to gregarious.

GYMNOPIILUS FLAVIDELLUS Murr.

Tenn-24968

~~GYMNOPIILUS~~

PHOTO

On wood, below Lake Waldensia, Oct. 13, 1962

Pileus 1.5-5 cm broad, convex, expanding, hygrophanous, "ochraceous buff", darker when wet, glabrous, margin even. Context whitish, faintly tinged yellow, firm; odor slight, taste bitter.

Lamellae adnate to decurrent, brownish-yellow to "ochraceous tawny", broad, close, many short.

Stipe 3-4 cm long, 3-8 mm thick, pallid to concolorous, equal, glabrous, solid. Veil remnants along pileus margin.

Spore deposit: "buckthorn brown". Spores 8-10 x 4.5-5.5 μ , ellipsoid or ovoid, inequilateral, verruculose, germ-pore none. Basidia 26-30 x 6-7 μ , 4-spored. Pleurocystidia 22-31 x 6-8 μ , clavate or ventricose, inconspicuous; cheilocystidia 20-28 x 3-7 μ , flask-shaped with a slender, capitate neck. Gill trama subparallel, hyphae 5-9 μ broad. Pileus trama radial-interwoven. Cuticle a trichodermium, hyphae brown, incrusted ^{hyphae.} ~~a none or outer part of~~
~~hyphae~~ Clamps present. Caulo-
cystidia only as terminal elements of surface hyphae, apices capitate, 3-5 μ broad. Pilocystidia none.

Jensen - 11

GYMNOPIUS FLAVIDELLUS

(Where collected?) Oct. 27, 1961, J. Jensen (ex-herb. Thiers).

Notes on Fabel

Yellow above and below, lower stipe brown.

Notes by Hesler

Veil fibrillose, yellowish.

Spores 7-9 x 4.5-5.5 μ , dextrinoid. Basidia 26-30 x 5-6 μ , 4-spored. Pleurocystidia 23-27 x 5-6 μ , ventricose; cheilocystidia 34-48 x 5-6 μ , flask-shaped, capitate. Gill trama of subparallel hyphae, 5-10 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle repent. Clamp connections present. Caulocystidia similar to cheilocystidia.

Walters-220

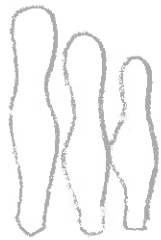
GYMNOPIIUS FLAVIDELLUS

Coll. by M. B. Walters, Cleveland, Ohio, det. Harding

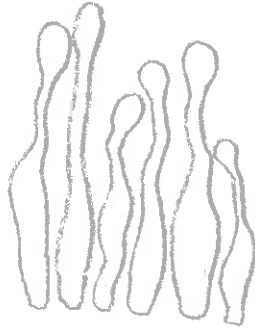
Spores 7.5-9 x 4.5-5(5.5) μ , ellipsoid or subovoid in face view, inequilateral in profile, verrucose, no germ pore, ferruginous in KOH, dextrinoid at once. Basidia 26-32 x 5-7 μ , 4-spored. Pleurocystidia 23-30 x 6-7 μ , ventricose; cheilocystidia 24-41 x 4-7 μ , slender-flask-shaped, capitate. Gill trama of subparallel hyphae, 4-10 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae, bearing a few scattered filiform to slender flask-shaped, capitate or non-capitate pileocystidia. Clamp connections present. Caulocystidia not found.

Cf. picreus and liguiritiae.

Gymnopus flavidellus
Natters - 220



Sp - x 1000



Sp - x 1000



Piles - x 1000



Spores - x 4000

Barrow-247

GYMNOPIUS FLAVIDELLUS

On stump, near Santa Fe, New Mex., Aug. 1955

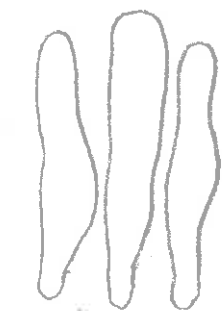
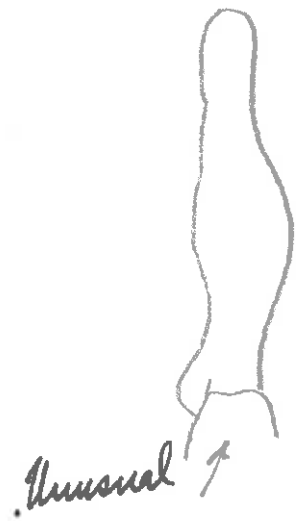
Notes by Barrow

Pileus 2.5-7.5 cm broad, yellow ochre, disc rusty. Context thin, pale yellow; taste strong, bitter. Lamellae decurrent, yellow to golden ochre, unequal. Veil (not mentioned; remnant of ring evident on stipe). Stipe 3-6 cm x 4-11 mm, concolorous with gills, equal or enlarged below.

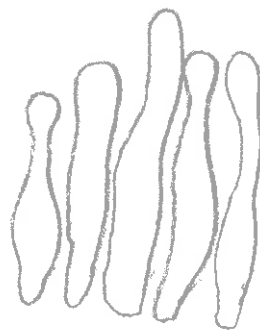
Notes by Hesler

Spores 7.5-9 x 4.5-5.5 μ , ellipsoid, inequilateral, verrucose, ferruginous in KOH, dextrinoid at once, no germ pore. Basidia 25-32 x 6-7 μ , 4-spored. Pleurocystidia 32-38(50) x 6-7(14) μ , ventricose, often projecting conspicuously; cheilocystidia 27-40 x 5-6 μ , ventricose or flask-shaped, capitate to subcapitate. Gill trama of subparallel hyphae, 3-6 μ , broad, subhymenium not distinctive. Pileus trama radial. Cuticle of brown repent hyphae, with brown epicuticular hyphae, incrustated, semi-repent (scales?). Pileocystidia none. Caulocystidia scattered cylindric-clavate or filamentous, 35-48 x 3-5 μ . Clamp connections on epicuticular hyphae, and rarely at base of pleurocystidia.

Gymnopilus flavidellus
Barrows - 247



Sp. - x 1000



Ch. - x 1000



Cauls. - x 1000

Malloch - 355

GYMNOPILUS FLAVIDELLUS

On hardwood, Santa Cruz, Calif., Dec. 30, 1964.

Spores 7-8.5 (9) x 4.5-5 (5.5) μ , dextrinoid.

Harding - 437

GYMNOPIUS FLAVIDELLUS

Cespitose, base of hardwood stump, near Ida, Mich., Oct. 14, 1950.

Spores 7-8.5 x 4.5-5 μ , dextrinoid.

Barrows-955

GYMNOPILUS ~~SUBPENETRANS~~ *flavidellus* Murr.

On rotten log, Jemez Mts., New Mexico, September 1958.

Notes by Barrows

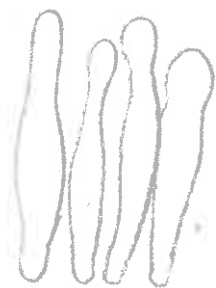
Cap dull-yellow-orange. Taste bitter. Gills yellow to orange. Stipe concolorous.

Notes by Hesler

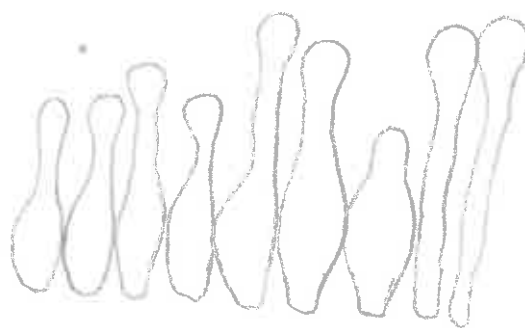
Spores 7-9 x 4.5-5.5 μ , ellipsoid, inequilateral, ferruginous in KOH, dextrinoid, no germ pore, verruculose. Basidia 27-35 x 7-8 μ , (2)4-spored. Pleurocystidia 32-36 x 4-7 μ , ventricose or subclavate; cheilocystidia 24-40 x 6-9 μ , of two distinct forms: flask-shaped and cylindric, both capitate. Gill trama of subparallel hyphae, 5-10 μ - broad; subhymenium not distinctive. Pileus trama radial. Cuticle bearing tufts of brown, incrusting hyphae (scales). Clamp connections present. Pileocystidia and caulocystidia none.

Near sapineus, but pleurocystidia more slender, cheilocystidia of 2 types, and I found no pileocystidia and no caulocystidia. Cf. subpenetrans, + *flavidellus*.

Gymnophilus flavidellus
~~*subsp. nov.*~~
Barrow - 955



GP. x 1000



CH - x 1000

Homola-1170

GYMNOPIUS FLAVIDELLUS

On conifer debris, Milan Greenhouse, Monroe Co., Michigan,
October 8, 1964.

(Identification tentative; no notes)

Spores 7-9 x 5-5.5(6.5) μ .

RLS-858

GYMNOPILUS flavidellus

On decayed wood, Palos Woods Forest Preserve, Cook Co., Illinois, Coll. R. L. Shaffer, July 24, 1956.

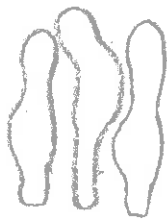
Spores 7-8.5 x 4-5 μ , ellipsoid or ovoid in face view, ends more or less acute, inequilateral in profile, verruculose, germ pore none. Basidia 24-27 x 6-7 μ , 4-spored. Pleurocystidia 23-27 x 5-7 μ , ventricose; cheilocystidia 24-38 x 4-7 μ , ventricose, with a slender neck, apex capitate neck. Gill trama subparallel, hyphae 4-7 μ broad. Pileus trama radial-interwoven. Cuticle of repent hyphae, bearing bundles of brown, incrustated hyphae. Clamp connections present. Caulocystidia 26-64 x 3-7 μ , subventricose or cylindric-flexuous, usually capitate.

There is a fugaceous veil present, apparently buff colored (or may be white, but colored by spores).

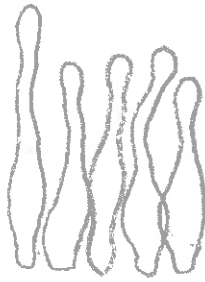
doubtless was yellow; now dried it
The cap (~~under lens~~) is brown-fibrillose.
^

Near flavidellus.

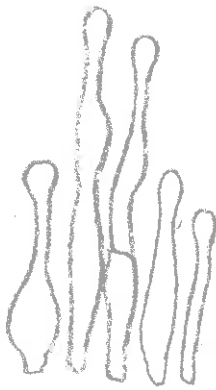
Gymnosporium flavicellus
RFS - *858



Gl - x 1000



Ch - x 1000



Caulo - x 1000
(± a palisade)

Bigelow-3211 GYMNOPILUS FLAVIDELLUS

On wood, in bog, near Sinclair, Maine, July 13, 1956.

Same as Bigelow-3210 (see notes there).

Bigelow-3212

GYMNOPILUS FLAVIDELLUS

On wood, in bog, near Sinclair, Maine, July 13, 1956.

Same as Bigelow-3210 (see notes there).

Bigelow-3213 GYMNOPILUS FLAVIDELLUS

On wood, in bog, near Sinclair, Maine, July 13, 1956.

Same as Bigelow-3210 (see notes there).

Bigelow-3663

GYMNOPILUS FLAVIDELLUS

Near Guerette, Maine, July 30, 1956 (Same as 3210 ?)

Same as Shaffer-3505.

Notes by Bigelow

Cap glabrous, except for veil fibrils at margin.

Taste bitter.

Solheim-4372

GYMNOPILUS FLAVIDELLUS

On rotting wood, Laramie Mts., Wyo. August 21, 1955.

Notes by Solheim

Pileus Sunstone, Pl. 12 (near "orange cinnamon"), margin fading to Pl. 9:7:K (near "ochraceous orange"), pubescent to fibrillose at margin. Taste strong. Stipe Pl. 9:5:I (near "warm buff") with silvery white hairs, to slightly Sunstone fibrillose, base white-matted-hoary.

Notes by Hesler

Spores 7-9.5(10) x 4.5-5 μ , ellipsoid, inequilateral, ferruginous, dextrinoid. Pleurocystidia ventricose; cheilocystidia flask-shaped, capitate. Gill trama of subparallel hyphae, 5-8 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent hyphae. Pileocystidia and caulocystidia none.

Thiers - 10740

GYMNOPIIUS FLAVIDELLUS

Gregarious on log, near Mendocino, Calif., Nov. 17, 1963.

Notes by Thiers

Pileus 4-7 cm broad, convex to plano-convex when young, becoming plane to obscurely umbonate to plano-convex in age, in some instances the pileus highly undulating and irregular in outline, surface moist, not viscid, apparently glabrous, or obscurely appressed-fibrillose, although the fibrils never appear to break free or to form any type of scale, near warm buff to buckthorn brown on the margin, typically darkening to ochraceous tawny toward the disc, frequently on the disc colored as dark as hazel to cinnamon rufous or in other fruiting bodies as dark as liver brown on the disc, in some ferruginous or hays russet. Darkening of disc apparent only in older specimens. Context yellow, thin, fragile; taste and odor not distinctive.

Lamellae deeply notched, close to subdistant, antimony yellow to ochraceous buff during all stages of development, several tiers of lamellulae, relatively broad and fragile, margin eroded concolorous.

Stipe 4-6 cm long, equal except for a slight enlargement at the base, surface moist to dry, somewhat glabrous or longitudinally striate, near warm buff to light buff but darkening to near ochraceous tawny or tawny when handled, typically hollow, flesh concolorous with the surface. Veil leaving a fibrillose annular zone at apex.

Notes on microscopic characters lost.

Thiers - 18035

GYMNOPIIUS FLAVIDELLUS Murr.

Gregarious on dead branches, Cavedale Canyon Road, Sonoma Co., Calif.,
Dec. 10, 1966 (det. Thiers as G. liquiritiae).

Veil pallid-whitish. Spores 7-9 x 4.5-5 μ , verrucose, ellipsoid, inequilateral, ferruginous, dextrinoid. Basidia 23-30 x 5-6(8) μ , 4-spored. Pleurocystidia 30-43 x 5-9 μ , ventricose, capitate to subcapitate; cheilocystidia 30-36 x 6-7 μ , flask-shaped or ventricose, capitate or subcapitate. Caulocystidia similar. Pileus trama radial.

The veil, and cystidia indicate flavidellus. The dried pileus is slightly darker than eastern U. S. collections.

Thiers - 18236

GYMNOPIIUS FLAVIDELLUS Murr.

Gregarious on conifer logs, Shasta Co., Calif., leg. J. Ammirati, det.
Thiers (as G. liquiritiae)

Spores 7.5 - 9 x 4.5 - 5 μ , dextrinoid. Other characters as in

Thiers - 18035.



24968 - *Gymnopilus flavidellus* Murr. - x 1



24968 - *Gymnopilus flavidellus* Murr.



21589 - *Flammula flavidella* (Murr.) comb. nov.
(Florida)

Sm-25780

GYMNOPIIUS FLAVIDELLUS

On conifer log, Wolf Bog, Cheboygan Co., Mich., det. Paul
Harding, July 17, 1947.

Spores 7-9 x 4.5-5.5 μ , ellipsoid, inequilateral,
verrucose, no germ pore, dextrinoid at once. Pleurocystidia,
cheilocystidia, and other characters as in 247 (from N. Mex.).

Sm-26553

GYMNOPIUS FLAVIDELLUS

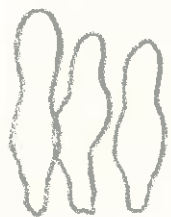
On conifer log, Petawawa Forest, Ontario, September 4, 1947.

Smith says: Cap yellow; odor none, taste bitter.

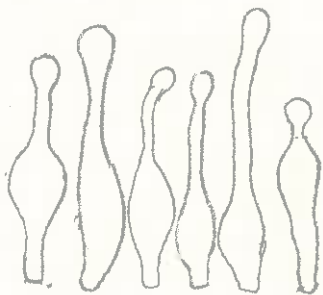
Spores 7-8.5 x 5-5.5 μ , ellipsoid, slightly inequilateral, verruculose, no germ pore, ferruginous in KOH, dextrinoid. Basidia 25-31 x 6-7 μ , 2-4-spored. Pleurocystidia 22-26 x 6-7 μ , ventricose; cheilocystidia 27-38 x 5-7 μ , tibiiform (capitate), or slender-flask-shaped, numerous. Gill trama subparallel to interwoven, hyphae 4-8 μ broad. Pileus trama radial. Cuticle of repent, brownish hyphae, bearing more or less a trichoderm of brownish, incrusted hyphae; hypodermium not differentiated. Clamp connections present. Caulocystidia 38-53 x 3-5 μ , in tufts, tibiiform (similar to cheilocystidia).

Gymnosporus flavidellus

Sm - 26553



Pl - x 1000



Ch - x 1000



Caule - x 1000

Sm-36882

GYMNOPILUS FLAVIDELLUS

Tahquamenon Falls State Park, coll. Smith, det. Harding,
July 16, 1951.

Spores 7-9 x 4.5-5 μ , dextrinoid at once.

Sm-41555

GYMNOPIIUS FLAVIDELLUS

On birch log, Machinaw City Hardwoods, July 8, 1953

Spores 7-8.5(9) x 4-4.5(5) μ , dextrinoid at once.

Sm-42220

GYMNOPIUS FLAVIDELLUS

On conifer, Tahquamenon Falls State Park, Mich., Aug. 17, 1953

Spores (6)7-9 x 4.5-5(5.5) μ , dextrinoid, ferruginous
in KOH.

Sm-50368

GYMNOPILUS FLAVIDELLUS

On conifer wood, Trout Lake, Colorado, September 12, 1955

Notes by Smith

Pileus glabrous, dull orange beneath a dull yellow, hoary coating of fibrils. Context bitter.

Lamellae ochre-yellow.

Stipe moist, yellowish watery streaked, soon naked. Veil rudimentary.

Notes by Hesler

Spores (5.5)7-9(10) x 4.5-5.5 μ , ellipsoid, inequilateral, ferruginous in KOH, dextrinoid, no germ pore, verruculose. Basidia 23-26 x 5-6 μ , 4-spored. Pleurocystidia 24-28 x 5-7 μ , ventricose; cheilocystidia 28-46 x 5-7 μ , flask-shaped, capitate or subcapitate. Gill trama of subparallel hyphae, 4-10 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent, brown, incrusted hyphae; pileocystidia none. Caulocystidia none. Clamp connections present.

present in type

I found no caulocystidia; otherwise, seems to be flavidellus.

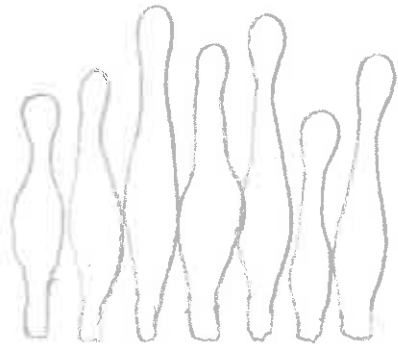
74233
Smith-X

GYMNOPILUS FLAVIDELLUS

Wilderness State Park, Mich., August 5, 1953

Spores 7-9 x 4.5-5(5.5) μ , dextrinoid.

Gymnopilus flavidellus
Thiers-18035



Pl. x 1000



Ch. x 1000

Cortinarius?
Flammula flavifolia Murrill

Murrill's description (Lloydia 8:285. 1945):

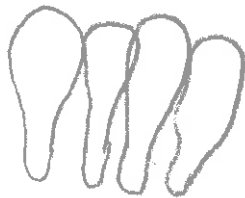
"Pileus convex, not fully expanding, very slightly depressed, gregarious, 2.5-3 cm. broad; surface dry, uniformly umbrinous, imbricate on the disk, radiate-fibrillose toward the margin, which is incurved when young, even, entire, concolorous; context very thin, stramineous, unchanging, odorless, mild; lamellae short-decurrent, medium distant, 5 mm. broad, few inserted, flavous, edges white and minutely eroded; spores elongate with rounded ends, smooth, ochraceous, 9-12 x 3-4 μ ; stipe equal, flavous at the apex, yellowish below with furrows and brown fibrils, solid, 3-3.5 x 0.5 cm.

"Type collected by W. A. Murrill in short grass under young slash pines in Gainesville, Fla., Jan. 20, 1944 (F 22500). The cap suggests Inocybe, the gills are bright-yellow, and the spores are unusually long and slender for the genus. The long needle-like fibrils on the stem appear to originate from the splitting of the cuticle, which is grooved longitudinally."

Gymnopilus flavifolius Murr.
(= *Cortinarius*)
Type



Basidia -
x 1000



ch -
x 1000

Continuation
GYMNOPILUS FLAVIFOLIUS Murr.

Lloydia 8:285. 1945

Flammula flavifolia Murr.

Pileus 2.5-3 cm broad, convex, not fully expanding, very slightly depressed, gregarious, dry, uniformly umbrinous, disc imbricate, radiate-fibrillose toward the margin, margin incurved when young, even, entire. Context very thin, stramineous, unchanging; odorless, taste mild.

Lamellae short-decurrent, flavous, edges white and minutely eroded, 5 mm broad (medium broad), medium distant.

Stipe 3-3.5 cm long, 5 mm thick, flavous at the apex, yellowish below, with furrows and brown fibrils, solid.

Spores 8.5-12.5 x 3-4 μ , oblong, smooth, no germ pore, pale brownish in KOH, yellowish brown in Melzer's reagent. Basidia 24-29 x 6-7 μ , 4-spored, vinaceous red in KOH. Pleurocystidia none; basidioles clavate, 18-20 x 4-6 μ , vinaceous red in KOH; cheilocystidia 20-24 x 6-11 μ , clavate, scattered (few), colorless. Gill trama of subparallel hyphae, 3-5 μ broad, vinaceous pink in KOH. Pileus trama vinaceous pink in KOH. Both gill and pileus tramae exuding a pinkish coloration in KOH. Cuticle of repent hyphae, bearing fibrils on surface. Clamp connections none. Caulocystidia none.

HABIT, HABITAT, AND DISTRIBUTION - On short grass, under pine, Florida, January.

MATERIAL STUDIED - FLORIDA: Murrill F22500, type, from Gainesville, January 20, 1944.

OBSERVATIONS - The spores, pinkish tramae, and habitat all strongly suggest Cortinarius. A note in the type box by Harding says A. H. Smith also says it is a Cortinarius by the KOH reaction of the tramal hyphae.

The description of microscopic characters above is based on the type.

FLAMMULA FULGENS (Favre & R. Maire) Lundell

No. 2721. Fungi Exsiccati Suecici, Ed. Lundell & Nannfeldt.
Among low mosses on peaty soil, in a bog, Femsjö Parish,
Sept. 20, 1940. Coll. Seth Lundell. On loan, Stockholm.

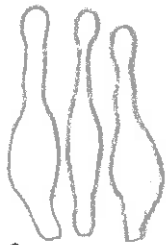
Spores 8-10 x 5-6 μ , ellipsoid to ovoid in face view, inequilateral in profile, coarsely rough (verrucose), ferruginous-brown in KOH, distinctly dextrinoid at once in Melzer's reagent, no germ pore. Basidia 24-30 x (5)6-7 μ , 4-spored, often more or less constricted toward the middle. Basidioles 24-28 x 4-5 μ , with brown contents, rare. Pleurocystidia 26-30 x 4-7 μ , flask-shaped, slightly or not at all capitate, inconspicuous, scattered; cheilocystidia 15-30 x 3-7 μ , flask-shaped, usually capitate, numerous and conspicuous. Gill trama subparallel to parallel, hyphae 6-12 μ broad; subhymenium of narrow, slightly interwoven hyphae. Pileus trama of radial hyphae. Cuticle of brown, often incrustated hyphae. Clamp connections present. Pileocystidia none. Caulocystidia 14-17 x 2.5-4 μ , clavate, ventricose, at times appendiculate-branched, in small mounds.

FLAMMULA FULGENS (Pavre & R. Maire) Lundell

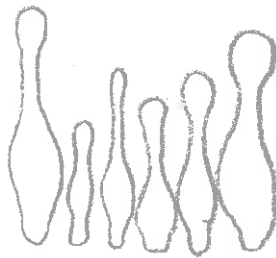
No. 2721. Fungi Exsiccati Suecici, Ed. Lundell & Nannfeldt.
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Sept. 20, 1940. Coll. Seth Lundell. On loan, Stockholm.

Spores 8-10 x 5-6 μ , ellipsoid to ovoid in face view, inequilateral in profile, coarsely rough (verrucose), ferruginous-brown in KOH, distinctly dextrinoid at once in Melzer's reagent, no germ pore. Basidia 24-30 x (5)6-7 μ , 4-spored, often more or less constricted toward the middle. Basidioles 24-28 x 4-5 μ , with brown contents, rare. Pleurocystidia 26-30 x 4-7 μ , flask-shaped, slightly or not at all capitate, inconspicuous, scattered; cheilocystidia 15-30 x 3-7 μ , flask-shaped, usually capitate, numerous and conspicuous. Gill trama subparallel to parallel, hyphae 6-12 μ broad; subhymenium of narrow, slightly interwoven hyphae. Pileus trama of radial hyphae. Cuticle of brown, often incrustated hyphae. Clamp connections present. Pileocystidia none. Caulocystidia 14-17 x 2.5-4 μ , clavate, ventricose, at times appendiculate-branched, in small mounds.

Flammula fulgens (Farre + Maire) Fundell
2721. Fundell + Naunfeldt, *Exsiccati*.



Pl. - x 1000



Ch. - x 1000



Basidioles - x 1000



Caulo - x 1000

Favre, Jules et Rene Maire, Sur un Naucoria des tourbieres jurassiniennes. Bull. Trimest. Soc. Myc. de France 53:267-270 (with text figs. A-E). 1937. (A Naucoria in peat-moss bog).

(Translation)

One of us (Maire) in 1913 found in France peat-bog a small brownish-orange Naucoria not hitherto reported by the authors. We describe it herewith as Naucoria fulgens s. sp.

Naucoria fulgens J. Favre et R. Maire, n. sp. (subgen. Alnicola Kuhner) - Solitary to gregarious, taste mild; odor weak; flesh of stipe brown ("ferruginea"), interior ("medulla") of stipe and pileus ochraceous; spores in mass fusco-ferrugineous. Stipe (1-2 cm, rarely up to 4 cm long, 1-1.5 mm rarely up to 2.5 mm broad) confluent with pileus, terete, subequal, fibrous-fleshy, cuticle adnate, dry, opaque, glabrous, apex slightly pruinose, scarcely striate, base brownish, apex sordid orange-yellowish, solid. Veil none. Pileus (0.5-2.5 cm diam., rarely 5 cm diam.), convex, not mammate, at length expanded-plane, thin, fleshy, cuticle adnate, more or less hygrophanous, dry, glabrous, opaque (dark), tinged rufous-brown when moist (jove?) orange-fulvous when dry; expanded margin incurved, even when moist, barely striate dry. Lamellae slightly crowded, ventricose, narrowed in front, rounded behind, broad, thin, golden-yellow-ferruginous, edge white-pruinose, finally concolor, sinuate-adnate, occasionally decurrent by a tooth, seceding confluent with pileus. Lamellulae (1-3) rounded behind to subattenuate. Edge of lamellae with numerous heteromorphic cheilocystidia ventricose-lageniform, apex subcapitate, 25-34 x (5.5)6.5-8(10) μ .

Mediostr~~ate~~ate regular; subhymenium thin, ramose. Cystidia (pleurocystidia) sparse, similar to cheilocystidia. Basidia 4-spored, subcylindrical, base attenuate, 27-30 x 7-8 μ . Spores slightly ochraceous (? "sub lente ochraceae"), ovate-amygdaliform, not at all compressed, coarsely verrucose, 8-11 x 5-7 μ . Cuticle of pileus of radial slender hyphae, scabrous, remaining dark, some terminal elements pileocystidia (like cheilocystidia). Stipe cuticle of parallel hyphae, 6-12 μ diam., pilose toward apex, often branched, apex often capitate.

Habitat in "turfosis Jurassi," summer to autumn.

In discussion, they state that the spores are 8-9 x 5-6 μ , rarely 13-18; in some collections (8.5)9-11 x 5-7 μ .

Pileus context brownish orange (wet), ochraceous (dry).

Favre, Jules et Rene Maire, Sur un Naucoria des tourbieres jurassiniennes. Bull. Trimest. Soc. Myc. de France 53:267-270 (with text figs. A-E). 1937. (A Naucoria in peat-moss bog).

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Mediostr/ate regular; subhymenium thin, ramose. Cystidia (pleurocystidia) sparse, similar to cheilocystidia. Basidia 4-spored, subcylindrical, base attenuate, 27-30 x 7-8 μ . Spores slightly ochraceous (? "sub lente ochraceae"), ovate-amygdaliform, not at all compressed, coarsely verrucose, 8-11 x 5-7 μ . Cuticle of pileus of radial slender hyphae, scabrous, remaining dark, some terminal elements pileocystidia (like cheilocystidia). Stipe cuticle of parallel hyphae, 6-12 μ diam., pilose toward apex, often branched, apex often capitate.

Habitat in "turfo-sis Jurassi," summer to autumn.

In discussion, they state that the spores are 8-9 x 5-6 μ , rarely 13-8; in some collections (8.5)9-11 x 5-7 μ .

Pileus context brownish orange (wet), ochraceous (dry).

SM - 12

GYMNOPIUS FULGENS

On burned humus, Mud Lake Bog, Mich., June 7, 1934.

Spores 7-9.5 x 5-6 μ , verrucose, dextrinoid.

SM - 16

GYMNOPIUS FULGENS

Mud Lake Bog, Mich., June 13, 1934.

Spores 7-9.5 x 5-6 μ , verrucose.

SM - 32-9

GYMNOPIIUS FULGENS

On debris and charred moss, Mud Lake Bog, Whitmore Lake, Mich., May, 1932.

Spores 7.5-9 x 6-8 μ , broadly ellipsoid, coarsely verrucose, dextrinoid.

SM - 989

GYMNOPIUS FULGENS

On burned ground, Mud Lake Bog, Whitmore Lake, Mich., Oct. 3, 1934.

Spores 8-10(10.5) x 5.5-6(7) μ , mostly amygdaliform, slowly dextrinoid, coarsely verrucose.

The pileus is paler and larger than in other collections, and the spores tend more toward an amygdaliform shape rather than broadly ellipsoid.

SM - 1329

GYMNOPIIUS FULGENS

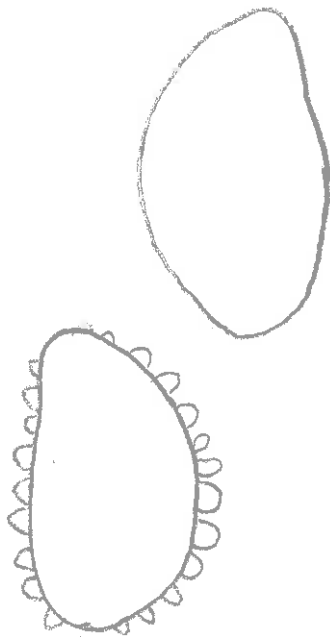
On soil, Mud Lake, Whitmore Lake, Mich., June 12, 1935.

Spores 8-10(11) x 5.5-6(7) μ , ellipsoid to subamygdaliform, dextrinoid.

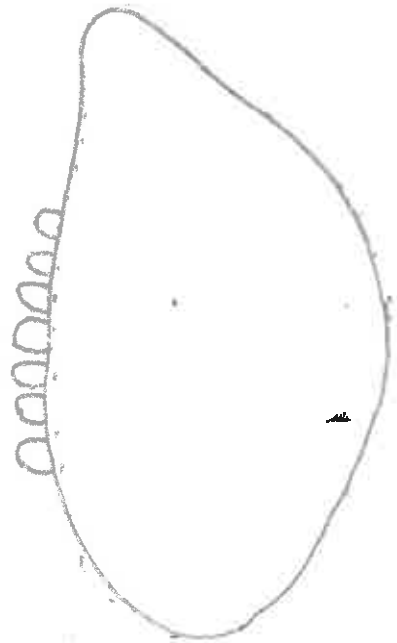
The pileus larger (1-2 cm) and the spores more amygdaliform rather than short-ellipsoid. Otherwise same as other fulgens. This about same as SM-989.

Gymnopilus fulgens

Sm - 1329



Spores - x 1000



Spores x ²/₁₀₀₀

SM - 32-32

GYMNOPIUS FULGENS

On charred sphagnum, Whitmore Lake, Mich., May 30, 1932.

Spores 7.5-9.5(10.5) x 6-7.5(8) μ , dextrinoid.

On burned-over ground, Whitmore Lake, Mich., June 15, 1932.

(Smith calls it Naucoria belluloides Kauff. — see Mich Acad. Sci. 5:139. 1926).

Pileus dark-brown. Lamellae broad to medium-broad, subdistant. Stipe blackish brown (dried). No veil seen in dried specimens.

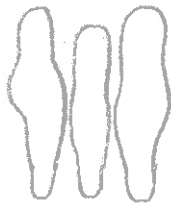
Spores 8-10 x 6-8 μ , broadly ellipsoid in face view, obscurely inequilateral in profile, coarsely verrucose, no germ pore, ~~WAIN~~ dark ferruginous in KOH, dextrinoid. Basidia 23-27 x 6-7 μ , 4-spored. Pleurocystidia 22-27 x 5-7 μ , ventricose; cheilocystidia 16-26 x 3-5 μ , flask-shaped, capitate, rather inconspicuous. Gill trama of subparallel hyphae, 3-7 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent, dark brown hyphae, some incrustated, bearing scattered bundles of brown, incrustated epicuticular hyphae, sometimes with a narrow, colorless zone on the surface (suggesting a subviscid condition). Pileocystidia 22-28 x 4-6 μ , brown, clavate, rare, scattered.

Caulocystidia 24-35 x 2-4 μ , slender-flask-shaped, subcapitate or non-capitate, in tufts. Yellow pigment, soluble in KOH, present in gill trama.

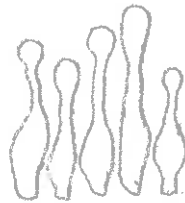
(*Nauvoria belluloides* Kauff.)

Sm - 32-118

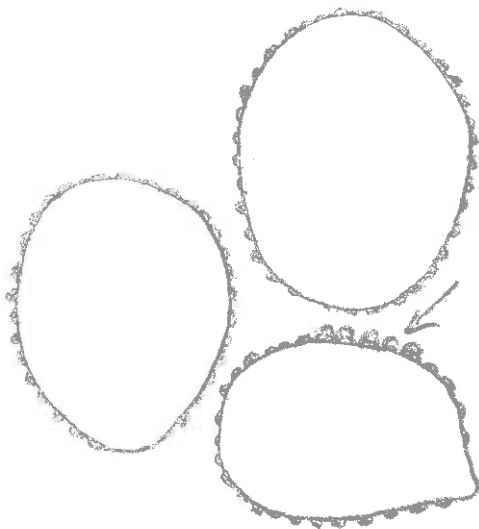
Gymnophilus fulgens



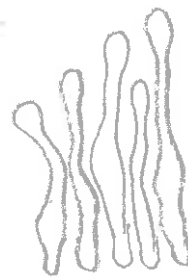
Pl - x 1000



Ch - x 1000



Spores - x 4000

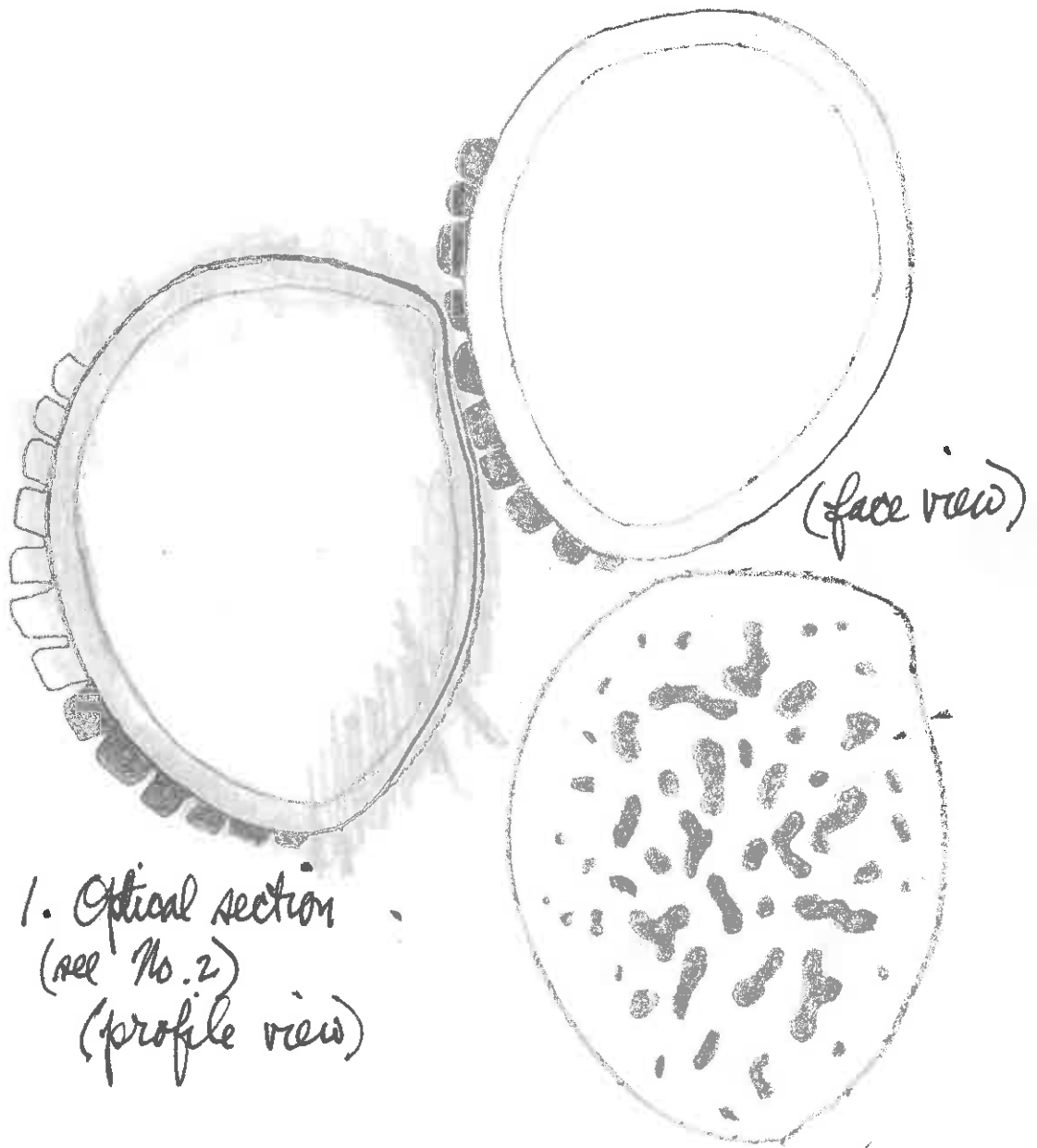


Caulo - x 1000
(in tufts, or at
times as a turf)



Pileo -
x 1000

Gymnopilus fulgens
Sm- 32-118



1. Optical section
(see No. 2)
(profile view)

2. Surface view
(Same spores as No. 1)
(~~the~~ profile)

Spores - $\times 8000$

SM - 33-93

GYMNOPIUS FULGENS

Whitmore Lake, Mich., May 22, 1933.

Spores 8-9 x (5.5)6-7.5 μ , dextrinoid.

SM - 33-103

GYMNOPIIUS FULGENS

On burned humus, Mud Lake Bog, Washtenaw Co., Mich., May 28, 1933.

Spores 7.5-9.5 x 6-7.5 μ , dextrinoid.

SM - 32-243

GYMNOPIUS FULGENS

On burned-over soil and charred sphagnum, Whitmore Lake, Mich., June 18, 1932.

Spores 8-9.5 x 6-7.5 μ , dextrinoid.

Imshaug-
3922

Pholista

~~GYMNOPILUS WINTERBURNIENSIS~~

On wood, Chippewa County, Michigan, August 23, 1949

Pileus 2-3.5 cm broad, convex, golden brown, fibrillose scaly, dry, margin even. Context pallid.

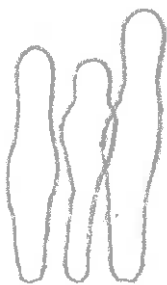
Lamellae adnate, golden brown, close, broad.

Stipe 3-4 cm long, 4-7 mm thick, enlarged downward, concolorous, fibrillose, spongy. Veil arachnoid, pale yellowish, fugacious.

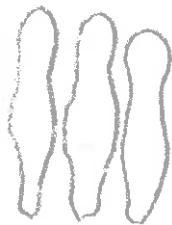
Spores ¹⁰7.5-~~8~~ x 5.5-7 μ , ovoid to more or less ellipsoid, or subglobose, slightly inequilateral, ^{small}verruculose, ~~in~~ ^{acyanophilus.} germ pore, ferruginous in KOH, not dextrinoid. Basidia 30-38 x 7-8 μ , 4-spored. Pleurocystidia 32-37 x 7-8 μ , colorless, ventricose; basidioles scattered, brown; cheilocystidia 24-28 x 6-7 μ , similar to pleurocystidia. Gill trama parallel, hyphae 7-16 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle repent, with fascicles of brown, broad, incrustated hyphae (scales). Clamp connections present. Pileocystidia and caulocystidia none. Yellow pigment, soluble in KOH, present in the gill trama.

Pholista
~~*Gymnosphaera*~~ *fulvibrunneus* sp. nov.
Imshang - 3922

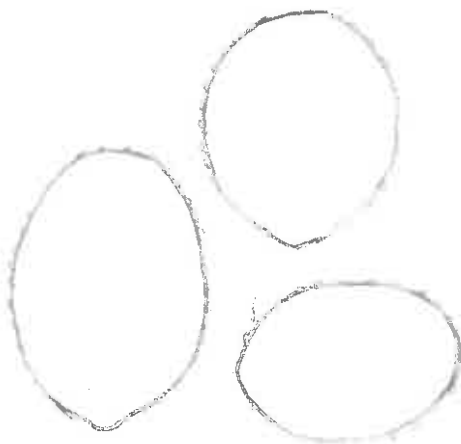
~~W. H. H.~~



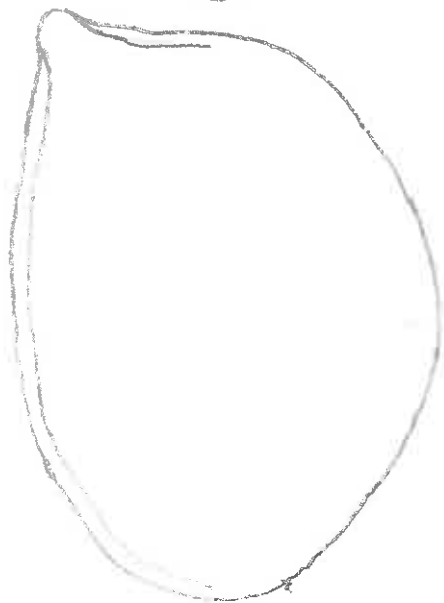
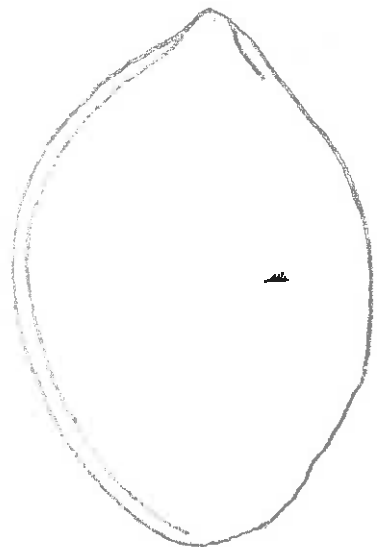
Pl - x 1000



Ch - x 1000



Spores - x 4000



Spores - x 8000

GYMNOPILUS FULVICOLOR Murr.

In leaf-mold, among sticks, under pine, Gainesville,
Florida, January 8, 1938, F 16005

TYPE

Spores 5.5-7(7.5) x (4)4.5-5.5 μ , ellipsoid, sub-globose or ovoid in face view, inequilateral in profile, verrucose to subechinulate, warts not crowded, apiculate, with a hilum, no germ pore, not dextrinoid, brownish in KOH. Basidia 24-30 x 5-6.5 μ , 4-spored. Pleurocystidia none; cheilocystidia 24-30 x 4-7 μ , ^{to ventricose,} clavate, rare. Gill trama parallel to subparallel, hyphae 4-9 μ broad. Pileus trama interwoven. Cuticle of repent hyphae, bearing some more or less erect hyphae. Clamp connections present. Caulocystidia none. Pileus and gill trama yellowish brown in KOH; dark reddish brown in Melzer's reagent.

The ch and Habitat suggest Cortinarius.

GYMNOPIUS FULVICOLOR Murr.

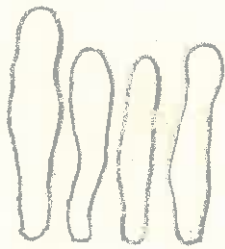
In leaf-mold, among sticks, under pine, Gainesville,
Florida, January 8, 1938, F 16005

TYPE

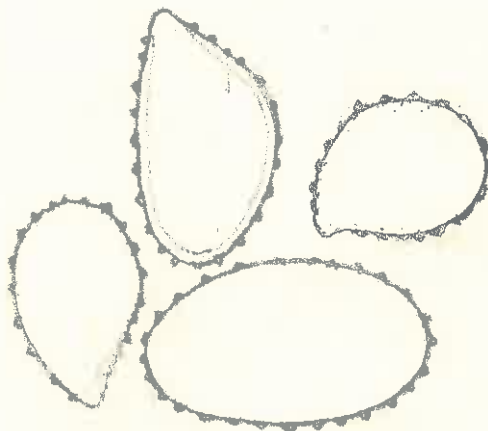
Spores 5.5-7(7.5) x (4)4.5-5.5 μ , ellipsoid, sub-globose or ovoid in face view, inequilateral in profile, verrucose to subechinulate, warts not crowded, apiculate, with a hilum, no germ pore, not dextrinoid, brownish in KOH. Basidia 24-30 x 5-6.5 μ , 4-spored. Pleurocystidia none; cheilocystidia 24-30 x 4-7 μ , clavate, rare. Gill trama parallel to subparallel, hyphae 4-9 μ broad. Pileus trama interwoven. Cuticle of repent hyphae, bearing some more or less erect hyphae. Clamp connections present. Caulocystidia none. Pileus and gill trama yellowish brown in KOH; dark reddish brown in Melzer's reagent.

Flammula fulvicolor Murr.

Type 716005



ch - x 1000



Spores - x 4000

Harding 433 GYMNOPIUS FULVOSQUAMULOSUS sp. nov.

On rotten red-maple log, near Dixboro, Michigan, coll. & det. Paul Harding,
October 11, 1950.

Spores 7.5-9.5 x 5-5.5 μ , ellipsoid, subinequilateral, verrucose,
germ pore none, ferruginous in KOH, red-brown or yellowish red-brown
at once in Melzer's reagent. Basidia 26-33 x 6-7 μ , (2) 4-spored.
Pleurocystidia 25-38 x 6-7 μ , ventricose-capitate or non-capitate;
cheilocystidia 30-36 x 4-8 μ , ventricose-flask-shaped, capitate. Gill
trama of subparallel hyphae, 2-5 μ broad. Subhymenium not distinctive.
Pileus trama interwoven. Cuticle of repent hyphae, bearing rather
large ^{bundles} ~~tufts~~ of brown, incrusting hyphae (forming semi-erect to flat,
fibrillose scales). Clamp connections present. Caulocystidia 38-74 x
3-7 μ , in pyramidal tufts, colorless, cylindric, at times ~~with~~ capitate.

This differs from Murrill's type of G. praefloccosus as follows:

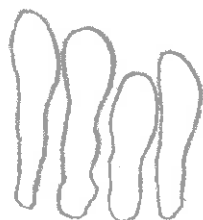
- (1) spores dextrinoid at once; ~~and darker, both in KOH and Melzer's;~~
(2) ^{the} presence of mounds of caulocystidia (~~in H-439~~); (3) scales less
[^] dense, ^{and} less erect (more repent) ~~in H-439~~; [^] taste none.

Gymnopilus praefloccosus ~~*fulvogrammatosus*~~ sp. nov.

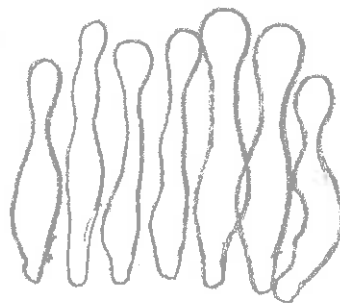
Harding - 433



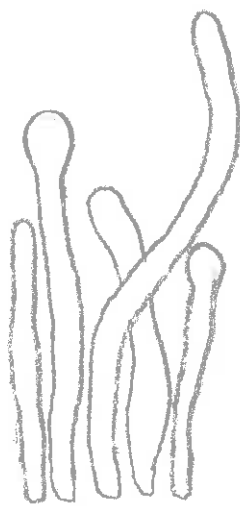
Gl - x 1000



Basidia
x 1000



Ch - x 1000



Caulo - x 1000
(pyramidal tuft)

Harding - 441

GYMNOPILUS FULVOSQUAMULOSUS

Basidiocarps developed on rotten, red maple wood placed in moist chamber by Harding, from near Dixboro, Mich., Oct. 11, 1950.

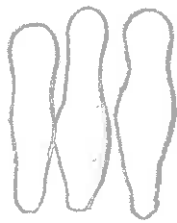
Spores 7-8.5(10) x 4.5-5(6) μ , larger ones rare, ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid, no germ pore. Basidia 26-30 x 6-7 μ , (2)4-spored. Pleurocystidia 23-27 x 6-7 μ , ventricose; cheilocystidia 25-30 x 4-7 μ , flask-shaped, capitate. Gill trama of subparallel hyphae, 5-12 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae, bearing large bundles of brown, incrusting hyphae, hyphae 5-18 μ broad; pileocystidia none. Caulocystidia 35-94 x 5-7 μ , mostly cylindric-capitate, in loose tufts, many as terminal elements on surface hyphal clumps. Clamp connections present.

Veil, if any, scanty and fugacious.

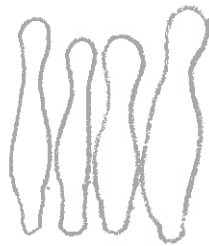
Harding calls this praefloccosus. But #441 has scanty veil, no annulus, dextrinoid spores, different scales on pileus, and the taste bitter.

Gymnopilus fulvosquamulosus sp. nov.

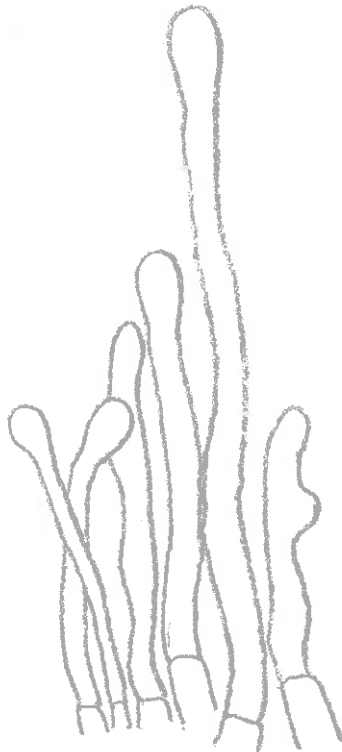
Harding - 446
(in culture)



Gl - x 1000



Ch - x 1000



Caulis - x 1000

Sm-72586

GYMNOPILUS ~~HAERFLOCCOSUS~~

fulvosquamulosus sp. nov. - Type

On hardwood, Wayne, Michigan, leg. Sam Mazzer, Sept. 12, 1965

Notes by Smith

Pileus 4-8 cm broad, broadly convex in age, obtuse with an incurved margin, young, surface covered with recurved, dry, fibrillose, tawny scales on a yellow-ochre to brighter yellow ground, no gelatinous layer present. Context yellow, pliant; odor and taste none; FeSO_4 slowly olive.

Lamellae adnate to decurrent, broad, close, dull-yellow becoming dark rusty brown, edges crenulate.

Stipe 3-6 cm long, 7-12 mm thick, equal or base clavate, curved, slowly rusty brown within cut, rusty brown over base from handling, dingy yellow above. Veil forming a ~~subhymenium~~ submembranous ring.

Notes by Hesler

7-9(10)
Spores ~~WANA~~ x 5-5.5 μ , ellipsoid, inequilateral, verrucose, no germ pore, ferruginous in KOH, dextrinoid at once. Basidia 23-26 x 5-6 μ , 4-spored. Pleurocystidia 22-27 x 5-7 μ , ventricose; cheilocystidia 24-33 x 4-7 μ , flask-shaped, capitate. Gill trama of subparallel hyphae, 5-11 μ broad; subhymenium not distinctive. Pileus trama of loosely interwoven hyphae. Cuticle of ^epent hyphae, bearing bundles of brown, incrusted hyphae, 5-15 μ broad (scales). Caulocystidia 28-54 x 5-7 μ , colorless, cylindric-

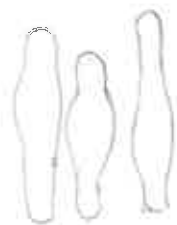
~~Gymnopilus~~ *fulvograminatus*
~~praefloccosus~~ - 2
(Sm - 72586)

clavate, in tufts. Clamp connections rare.

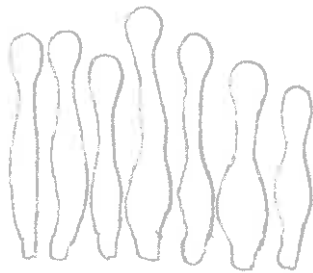
Near praefloccosus which is bitter; stipe with a bulbous base.

Gymnopilus fulvesquamulosus sp. nov.
~~*fulvescens*~~

Sm-72586 - Type



Pl. x 1000



Ch. x 1000



Carlo
- x 1000

On soil, at base of buckeye, Wolf Laurel Gap, near Heintooga, GSMNP,
June 22, 1954.

Pileus 3-7 cm broad, convex, finally plane, basic color pallid to yellow, disc darker, densely covered with mounds of rusty reddish to brownish fibrillose scales, tips of scales darker, dry, not hygrophanous, margin even, splitting. Context pliant, toughish, pale yellow; odor slight, taste slightly bitter.

Lamellae adnexed, crowded, narrow, yellow at first, finally densely reddish-brown spotted, edges rough.

Stipe 4-7 cm long, 5-12 mm thick, dingy brownish, dry, fibrillose-striate, equal, solid, flesh yellow. Veil none observed.

Spores near "ochraceous tawny" and tinged ferruginous in deposit, 6.5-9 x 4-5 μ , ellipsoid in face view, inequilateral in profile, verruculose-wrinkled, germ pore none, ferruginous in KOH, dextrinoid at once. Basidia 24-27 x 5-7 μ , 2-4-spored. Pleurocystidia 20-35 x 3-8 μ , colorless or brown, cylindric-clavate to slightly ventricose; cheilocystidia 22-32 x 4-6 μ , slender-ventricose or flask shaped, capitate or subcapitate. Gill trama slightly interwoven, hyphae 5-11 μ broad. Pileus trama loosely interwoven, hyphae 7-15 μ broad. Cuticle a dark-brown zone of repent hyphae, bearing epicuticular hyphae, frequently in fascicles forming scales, brown, incrustated. Clamps present. Pileocystidia 34-54 x 4-11 μ , fusoid to cylindric or subclavate, in tufts, as terminal hyphal elements, brownish. Caulocystidia 30-45 x 4-10 μ , ventricose, clavate, as terminal elements of epicuticular hyphae.

All parts dark red in 15% KOH.

Not spectabilis which has a pale yellow veil and slightly broader spores; near sapineus which has a yellowish veil.

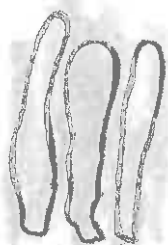
Gymnopilus fuscogranulosus sp. nov.

Tenu - 21398

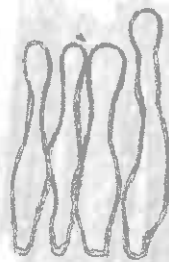
Type



(a) Colobus

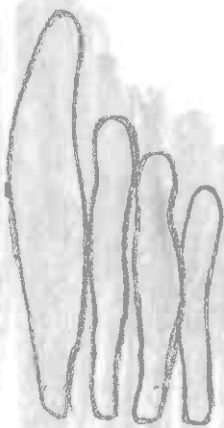


(b) Brown
(basidia)

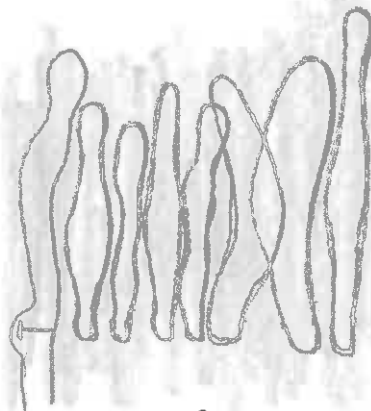


Ch - x 1000

Ch - x 1000



Pileo - x 1000
(in mounds)



Caulis - x 1000
(in mounds)

Tenn-21686

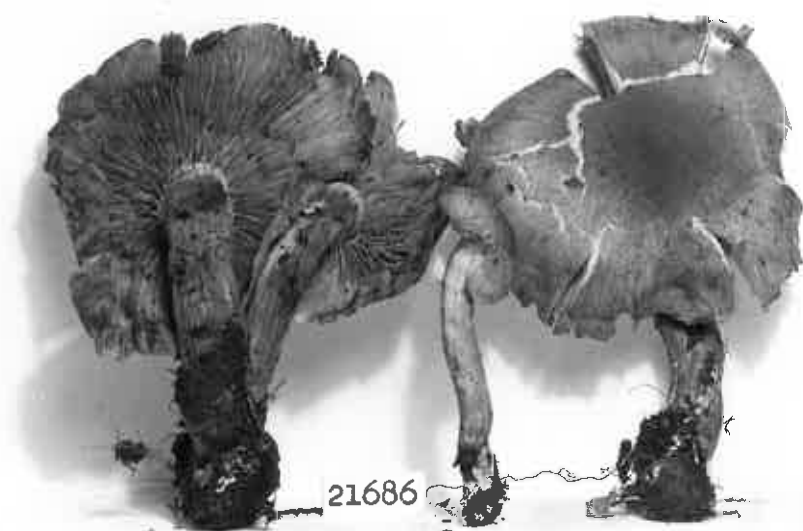
GYMNOPILUS *fuscogranulosus* PHOTO

On Rhododendron roots, Wolf Laurel Gap, near Heintooga, GSMNP,
June 15, 1955

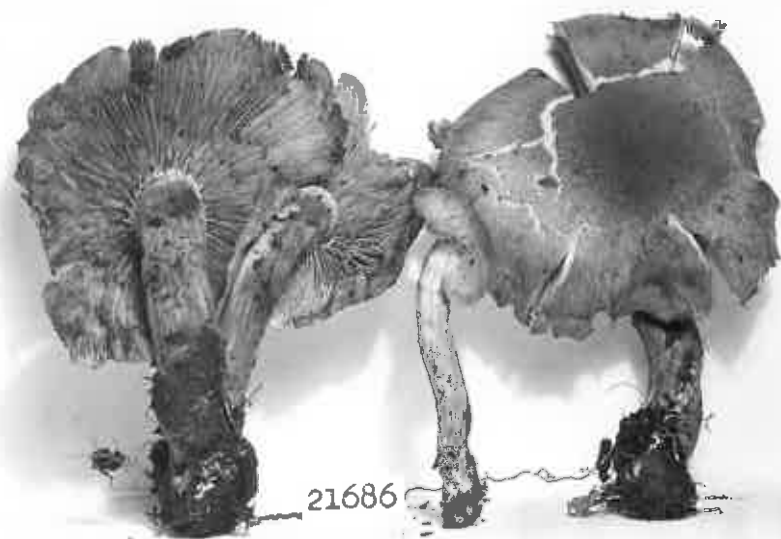
Same as Tenn-21398; see full notes there.



21398 - *Gymnopilus fuscusquamulosus*



21686 - *Gymnopilus fuscogranulosus*



21686 - *Gymnopilus fuscusquamulosus*

GYMNOPIIUS (NAUCORIA) GEMINELLUS (Pk.) Murr.

Leg. C. H. Peck, Croghan, Lewis Co.

TYPE

Spores 7-8.5(9) x 4.5-5(5.5) μ , ellipsoid in face view, inequilateral in profile, verrucose, ferruginous in KOH, at once dextrinoid, no germ pore. Basidia 25-30 x 6-7 μ , 4-spored. Pleurocystidia 18-30 x 4-7 μ , clavate, some (basidioles) brown, buried, rare; cheilocystidia 24-41 x 4-6 μ , ventricose-capitate to ~~tibiiform~~ ^{lecythiform}, rarely brown. Gill trama of slightly interwoven hyphae 3-5 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle a zone of repent, brown hyphae, the surface bearing some brown, more or less incrustated, semi-erect hyphae. Clamp connections present. Caulocystidia none.

Yellow pigment, ~~present~~ soluble in
KOH, present in gill trama.

present (Tamm - 17/45)

GYMNOPIIUS (NAUCORIA) GEMINELLUS (Pk.) Murr.

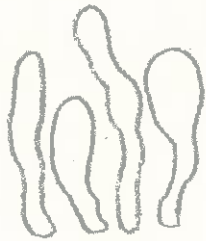
Leg. C. H. Peck, Croghan, Lewis Co.

TYPE

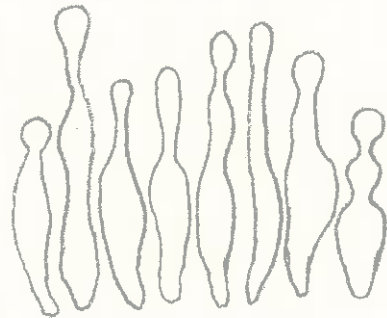
Spores 7-8.5(9) x 4.5-5(5.5) μ , ellipsoid in face view, inequilateral in profile, verrucose, ferruginous in KOH, at once dextrinoid, no germ pore. Basidia 25-30 x 6-7 μ , 4-spored. Pleurocystidia 18-30 x 4-7 μ , clavate, some (basidioles) brown, buried, rare; cheilocystidia 24-41 x 4-6 μ , ventricose-capitate to tibiiform, rarely brown. Gill trama of slightly interwoven hyphae 3-5 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle a zone of repent, brown hyphae, the surface bearing some brown, more or less incrustated, semi-erect hyphae. Clamp connections present. Caulocystidia none.

Gymnopilus (Naucoria) geminellus (PK.) Murr.

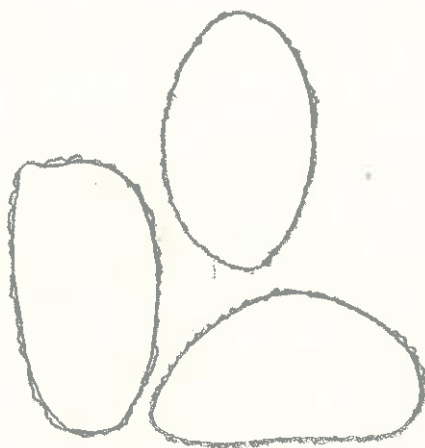
Type.



Pl - x 1000



Ch - x 1000

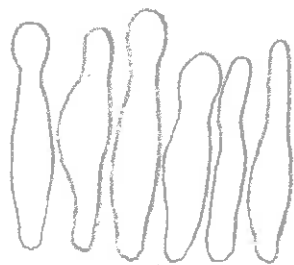


Spores - x 4000

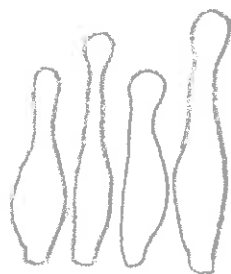
Gymnopilus geminellus (Pk.) Murr.

No. 17145

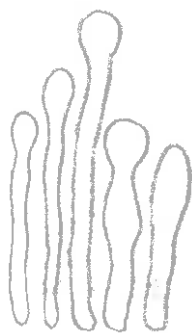
spec. lost?



~~Ch~~ - x 1000



Ch - x 1000



Caules - x 1000

Homola-941

GYMNOPILUS GEMINELLUS ~~(?)~~

On rotten deciduous wood, George Reserve, Livingston Co.,
Michigan, July 16, 1964.

Notes by Homola

Pileus yellowish (br. orange), campanulate, becoming convex, dry, appressed fibrillose, margin involuted when young.

Lamellae adnate, yellow, close.

Stipe white near apex, yellowish, vertical slits present, silver-streaked.

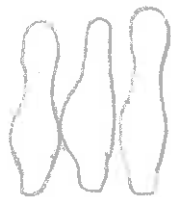
Notes by Hesler

Spores 7-9 x 4.5-5.5 μ , ellipsoid, slightly inequilateral, verruculose, ferruginous in KOH, dextrinoid. Pleurocystidia 22-26 x 6-7 μ , ventricose; cheilocystidia 23-34 x 6-8 μ , flask-shaped, capitate, some with brown contents. Gill trama of slightly interwoven hyphae, 3-5 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle repent. Pileocystidia and caulocystidia none. Clamp connections present.

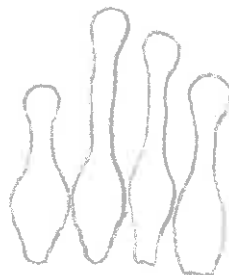
Notes needed on taste, veil if any.

Gymnophilus geminellus (?)

Homola - 941



Fl - $\times 1000$



Ch - $\times 1000$

Sm-33976

GYMNOPIUS *geminellus*

(card not
found)

On wood (no other data)

Pileus thin, brown, glabrous.

Stipe short, thin. Veil sparse, white or whitish
(dried), fugaceous.

Spores 7.5-9 x 4.5-5.5 μ , ellipsoid to ovoid in face
view, inequilateral in profile, verruculose, many dext-
rinoid at once, no germ pore. Basidia 23-28 x 6-7 μ ,
4-spored. Pleurocystidia 18-23 x 5-6 μ , ventricose;
cheilocystidia 23-28 x 5-8 μ , tibiiform. Gill trama slightly
interwoven, hyphae 2-4 μ broad. Pileus trama radial.
~~Wavy~~ Cuticle of repent, brown hyphae, with scattered
pileocystidia which are brown, clavate or ventricose, 18-34 x
5-8 μ . Clamp connections present. Caulocystidia none.

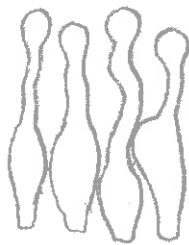
Near liquiritiae; also cf. *geminellus*.

Gymnopilus geminellus

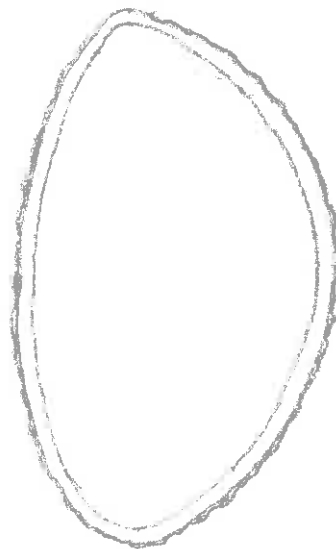
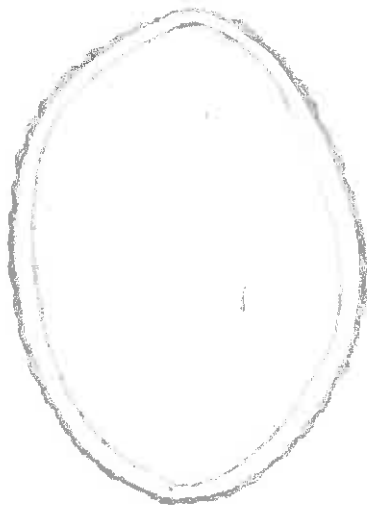
Sm-33976



H - x 1000



Ch - x 1000



Spores - x 8000

Galerina
GYMNOPIIUS HALLIANUS (Pk.) Murr.

In pastures, Bethlehem, Albany Co., N.Y., leg. C. H. Peck

TYPE

Spores 7.5-10 x 4.5-6 μ , ellipsoid to subvoid in face view, inequilateral in profile, wrinkled-rough, germ pore none. Basidia 24-30 x 4-6 μ , 4-spored. Pleurocystidia and cheilocystidia none. Gill trama interwoven, hyphae 4-7 μ broad. Pileus trama radial. Cuticle of repent hyphae. Clamp connections none. Caulocystidia 25-43 x 4-5 μ , filamentous or cylindric-clavate, or ventricose, rare. Pileus and gill trama yellowish brown in KOH; blackish brown in Melzer's reagent.

Harding places this in Galerina, but it is not included in Smith and Singer's work on Galerina. Peck says the gills are cinnamon color, and it may belong to Cortinarius.

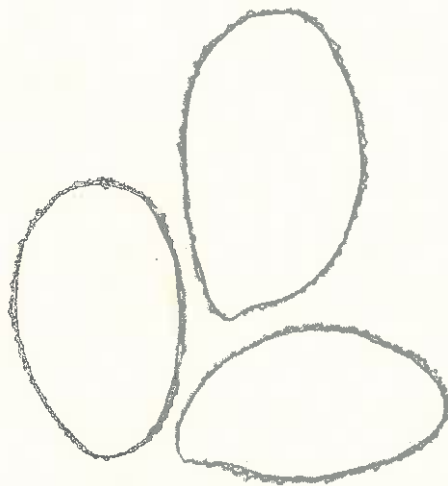
Peck says the gills are cinnamon color,
and Murrill says the spores are ferruginous.

Gymnopilus (*Agaricus*, *Flammula*) *hallianus* (Pk.)

Type



Caulo - x 1000 .



Spores - x 4000

GYMNOPIIUS HALLIANUS (Pk.) Murr.

In pastures, Bethlehem, Albany Co., N.Y., leg. C. H. Peck

TYPE

Spores 7.5-10 x 4.5-6 μ , ellipsoid to subovoid in face view, inequilateral in profile, wrinkled-rough, germ pore none. Basidia 24-30 x 4-6 μ , 4-spored. Pleurocystidia and cheilocystidia none. Gill trama interwoven, hyphae 4-7 μ broad. Pileus trama radial. Cuticle of repent hyphae. Clamp connections none. Caulocystidia 25-43 x 4-5 μ , filamentous or cylindric-clavate, or ventricose, rare. Pileus and gill trama yellowish brown in KOH; blackish brown in Melzer's reagent.

Harding places this in Galerina, but it is not included in Smith and Singer's work on Galerina. Peck says the gills are cinnamon color, and it may belong to Cortinarius.

AGARICUS HARMOGE Fr.

Epicr. Myc., p. 189, 1838.

(A. fulvo-marginatus Weinm., Fl. Ross. p. 200, 1836)

(Translation from Fries)

Pileus campanulate, disc fleshy, aeruginous, adpressed-squamulose, subviscid, margin lilac to pinkish, not always fulvo-marginatus, but always a singular mixture of colors.

Lamellae emarginate, broad, sulfur-yellow then fulvo-saffron.

Stipe concolorous with the pileus, 4mm thick, flocculent-stuffed, slightly attenuated, glabrous. Veil floccose-radiate.

Spores saffron.

[Harmoge: Greek: mixing of colors]

Sm-64807

GYMNOPIIUS HARMOGE

University of Michigan Biological Station, July 1961

Smith states: infected with an Imperfect. •

Spores 6-8.5 x 3.7-4.5 μ , dextrinoid at once.

Galerina
GYMNOPIIUS HELVOLICEPS (B. & C.) Murr.

(= Galerina helvoliceps (B. & C.) Singer)

On rotten log, in woods, Cuba

Type (?)

Material from N. Y. Bot. Garden labelled "Type".

Spores 7-11 x 4-6 μ , subellipsoid or ovoid in face view, slightly inequilateral in profile, wrinkled-rough outer layer loosening and spore then more or less calyptrate, germ-pore apparently present (in some spores). Cheilocystidia 28-35 x 4-7 μ , ventricose. Gill trama undulating subparallel, hyphae 2-4 μ broad. Cuticle repent. Pileus and gill trama pale brown in KOH; reddish brown in Melzer's reagent.

Material sparse and not satisfactory for full study. Pleurocystidia may be present, but I was uncertain.

GYMNOPIIUS HELVOLICEPS (B. & C.) Murr.

(= Galarina helvoliceps (B. & C.) Singer)

On rotten log, in woods, Cuba

Type (?)

Material from N. Y. Bot. Garden labelled "Type".

Spores 7-11 x 4-6 μ , subellipsoid or ovoid in face view, slightly inequilateral in profile, wrinkled-rough outer layer loosening and spore then more or less calyptrate, germ-pore apparently present (in some spores). Cheilocystidia 28-35 x 4-7 μ , ventricose. Gill trama undulating subparallel, hyphae 2-4 μ broad. Cuticle repent. Pileus and gill trama pale brown in KOH; reddish brown in Melzer's reagent.

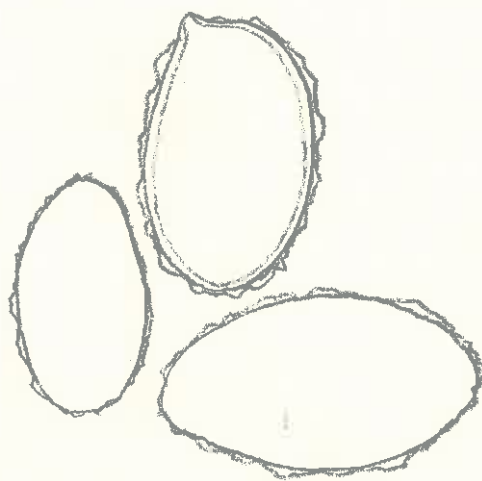
Material sparse and not satisfactory for full study. Pleurocystidia may be present, but I was uncertain.

Gymnosporium helvoliceps ^(B.+C.) Murr.
(= *Galerina helvoliceps* ^(B.+C.) ~~Murr.~~ Sing.)

Type



ch - x 1000



Spores - x 4000

Galerina
GYMNOPIUS HELVOLICEPS (Berk. & Curt.) Murrill

Mycologia 5: 20. 1913

Agaricus helvoliceps Berk. & Curt. Jour. Linn.
Soc. 10:290. 1868

Flammula helvoliceps Sacc. Syll. Fung. 5: 813. 1887

Pileus 2.5 cm broad, thin, convex to depressed, surface glabrous, helvolous.

Lamellae adnate, arcuate, ferruginous-vinous.

Stipe 2.5-3 cm long, equal, fuscous, solid, glabrous, substrigose at the base.

Spores 7-11 x 4-6 μ , subellipsoid or ovoid in face view, slightly inequilateral in profile, wrinkled-rough outer layer loosening and spore then more or less calyptrate, germ-pore apparently present (in some spores). Cheilocystidia 28-35 x 4-7 μ , ventricose. Gill trama undulating subparallel, hyphae 2-4 μ broad. Cuticle repent. Pileus and gill trama pale brown in KOH; reddish brown in Melzer's reagent.

Material sparse and not satisfactory for full study. Pleurocystidia may be present, but I was uncertain. Material from N. Y. Bot. Garden labelled "Type".

Pholiota (vervalis?)
FLAMMULA HILLII Murr.

New Westminster, British Columbia, coll. by Albert I. Hill,
No. 7, April 23, 1905.

TYPE

Spores 6-7.5(8) x 3.5-4 μ , ellipsoid, more or less inequilateral, often to rarely ovoid, smooth, truncate, germ pore present (not always conspicuous). Pleurocystidia only as cheilocystidia which extend up the sides a short distance; cheilocystidia numerous, conspicuous, 26-34 x 4-7 μ , filamentous-cylindric, flask-shaped with a neck, apices sometimes capitate or subcapitate. Gill trama subparallel, hyphae 6-10 μ broad. Pileus trama radial. Cuticle of repent hyphae.

GYMNOPIUS HISPIDA (Masseo) Murr.

On rotten wood, Chateau, Belair, St. Vincent, leg. W.R.
Elliott-309, 13-1-92.

TYPE (From British Museum)

(Examined April 10, 1967)

Spores (5.5)6-8 x 4-4.5(5) μ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ pore, yellowish brown in KOH, yellow brown at first in Melzer's reagent, only faintly dextrinoid after 8 hours. Basidia not found, apparently collapsed. Pleurocystidia and cheilocystidia not found (collapsed?). Gill trama of subparallel hyphae, 3-6 μ broad. Pileus trama of interwoven hyphae. Cuticle a narrow layer of repent, brown hyphae, bearing scattered or numerous, erect, colorless, filamentous, subventricose pileocystidia, 23-42 x 3-5 μ . Clamp connections present. Caulocystidia (no stipe material present).

Gills broad, close.

This may be palmicola.
FLAMMULA HISPIDA ?

Coll. by Bro. Leon, Near Havana, Cuba, Oct. 1915 (5701, N.Y. Bot. Garden).

Spores 7.5-9(10) x 5.5-6 μ , ellipsoid, slightly inequilateral, verrucose, germ pore none, ferruginous in KOH, brownish (warts blackish) in Melzer's reagent. Pleurocystidia 22-27 x 5-6 μ , flask-shaped, colorless; scattered, inconspicuous; cheilocystidia similar, not abundant. Gill trama narrow, hyphae 4-8 μ broad, subparallel. Pileus trama slightly interwoven. Cuticle of repent hyphae, dark-brown, otherwise similar to tramal hyphae, bearing scattered bundles of brown, incrusted hyphae (the hispid, more or less erect scales). Caulocystidia none. Clamp connections scarce.

Please note the doubtful identification--possibly Murrill's.

(Cf. the type, in which the spores are smaller with minute warts, yellowish brown in KOH. It is doubtful whether the above collection is hispid). Subsequently: Murrill's 5701 is near palmicola, or very close to it.

GYMNOPIUS HISPIDA (Masse) Murr.

On rotten wood, Chateau, Belair, St. Vincent, leg. W.R.
Elliott-309, 13-1-92.

TYPE (From British Museum)

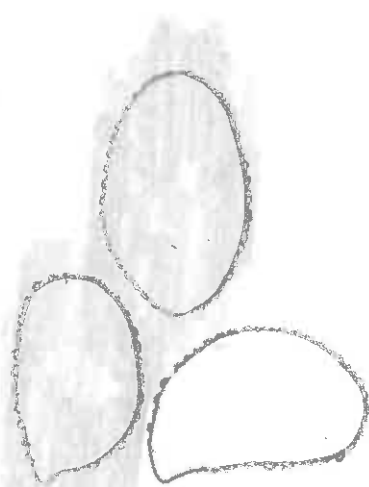
(Examined April 10, 1967)

Spores (5.5)6-8 x 4-4.5(5) μ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ pore, yellowish brown in KOH, yellow brown at first in Melzer's reagent, ~~only~~ faintly dextrinoid after ^{eight} 8 hours. Basidia, ~~not found, apparently collapsed.~~ ^{collapsed.} pleurocystidia, and cheilocystidia ~~not found. (collapsed?).~~ Gill trama of subparallel hyphae, 3-8 μ broad; ^{subhymanium not distinctive.} Pileus trama of interwoven hyphae. Cuticle a narrow layer of repent, brown hyphae, bearing scattered or numerous, erect, colorless, filamentous, subventricose pileocystidia, 23-42 x 3-5 μ . Clamp connections present. Caulocystidia (no stipe material present).

Gills broad, close.

Fammula hispida Marsee

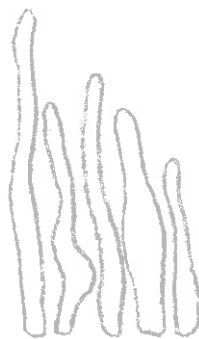
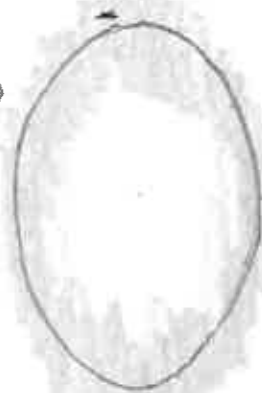
Type



Spores - x 4000



x 8000



Piles - x 1000

FLAMMULA HISPIDA Massee

On rotten wood, Chateau Belair, St. Vincent, leg. W. R.
Elliott-309, 13-1-92.

Type (from British Museum)

(Examined April 10, 1967)

Spores (5.5)6-8 x 4-4.5(5) μ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ pore, yellowish brown in KOH; yellow brown at first in Melzer's reagent. Basidia not found, apparently collapsed. Pleurocystidia and cheilocystidia not found. Gill trama of subparallel hyphae, 3-6 μ broad. Pileus trama of interwoven hyphae. Cuticle a narrow layer of repent, brown hyphae, bearing scattered or numerous, erect, colorless, filamentous, subventricose pileocystidia, 23-42 x 3-5 μ . Clamp connections present. Caulocystidia (no stipe material present).

Gills broad, close.

GYMNOPIIUS HISPIDELLUS Murr.

On old logs, base of El Yunque, near Baracoa, Cuba, leg.
Underwood and Earle, No. 429, March 1903.

TYPE

Spores 5.5-7(7.5) x 4-5 μ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ pore, not dextrinoid. Basidia 23-27 x 6-7 μ , 4-spored. Pleurocystidia: (a) colorless, projecting slightly, 30-36 x 6-8 μ , clavate and mucronate or appendiculate, (b) brown, buried, 15-26 x 6-11 μ , clavate; cheilocystidia 23-32 x 6-9 μ , ventricose, at times more or less capitate. Gill trama of subparallel hyphae, 2-4 μ broad. Pileus trama radial. Cuticle a turf of tangled hyphae, colorless or brownish, loosely-arranged or in tufts (scales). Clamp connections present. Caulocystidia rare, scattered, 25-38 x 5-7 μ , ventricose or clavate. Pileus and gill trama pallid brownish in KOH; rusty brown in Melzer's reagent.

GYMNOPIIUS HISPIDELLUS Murr.

On old logs, base of El Yunque, near Baracoa, Cuba, leg.
Underwood and Earle, No. 429, March 1903.

TYPE

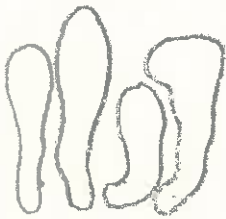
Spores 5.5-7(7.5) x 4-5 μ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ pore, not dextrinoid. Basidia 23-27 x 6-7 μ , 4-spored. Pleurocystidia: (a) colorless, projecting slightly, 30-36 x 6-8 μ , clavate and mucronate or appendiculate, (b) brown, buried, 15-26 x 6-11 μ , clavate; cheilocystidia 23-32 x 6-9 μ , ventricose, at times more or less capitate. Gill trama of subparallel hyphae, 2-4 μ broad. Pileus trama radial. Cuticle a turf of tangled hyphae, colorless or brownish, loosely-arranged or in tufts (scales). Clamp connections present. Caulocystidia rare, scattered, 25-38 x 5-7 μ , ventricose or clavate. Pileus and gill trama pallid brownish in KOH; rusty brown in Melzer's reagent.

Gymnophilus hispidellus Murr.

Type

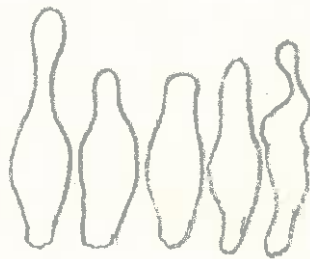


(a) colorless

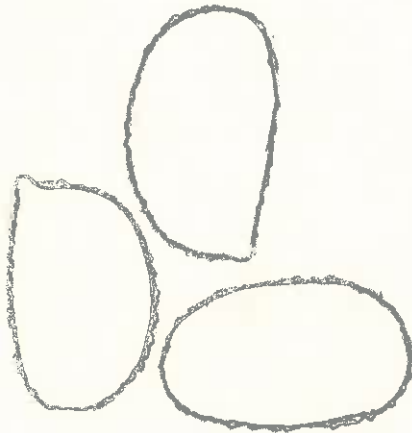


(b) brown

Pl - x 1000



Ch - x 1000



Eges - x 4000



Gulo - x 1000

GYMNOPIUS HUMICOLA P. R. Harding ex Singer

Sydowia 15:76. 1961

(Translation from Latin by L. R. H.)

Pileus 22-34 mm broad, subumbonate to obtuse, deep ferruginous-brown to dull brown or obscurely melleous, in youth especially at the margin sometimes becoming dilute-colored, dry, disc occasionally olivaceous-umbrinous, squamulose. Context ochraceous, brunnescent below, yellowish in the pileus-apex, alutaceus on the surface of the pileus; odor weakly sub-aromatic, suggesting Naematoloma fasciculare, taste sub-mild to sub-bitterish.

Lamellae adnate, sienna-colored ("raw sienna" M & P); at first yellow, edges more yellowish, narrow or medium-narrow, close to crowded, frequently brown-spotted.

Stipe 16-42 mm long, 3-6 mm thick, yellow, then yellow on a fuscous base, to obscurely olivaceous-umbrinous, fibrillose, solid, then stuffed, equal. Veil none.

Spores 7.3-9 x 4.5-6 μ , verruculose, no smooth subprahilar area. Basidia 24-30 x 6.5-7 μ , 4-spored. Pleurocystidia none; cheilocystidia 19.5-24 x 5.2-6.8 μ , yellowish ferruginous to hyaline, ampullaceous, capitate. Hymenophoral (gill ?) trama hyaline, regular to subregular. Epicuticular elements catenulate, elongate, brown-incrusted, 4-13.5 μ broad; irregular. All hyphae (except sometimes the septa in the secondary hyphae) clamped. Chemical reactions:

NH₄OH turning surface dark-ferruginous-spotted, and KOH blackish.

On forest humus, as well as on sandy soil mixed with woods soil, USA, Michigan, Emmet Co., Colonial Point, July 4, 1953. Leg. Singer No. N383 (F), paratype - Cheboygan Co., east shore of Burt Lake, July 3, 1953 (F), TYPE. Other collections preserved at (Univ.) MICH, det. Harding.

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Sm-159A

GYMNOPILUS HUMICOLA

Mich.,

Pike Lake, Aug. 12, 1964

^

Spores 7-9 x 4-4.5 μ , dextrinoid at once. Pleurocystidia 42-46 x 5-6 μ , subventricose to subcylindric; cheilocystidia 20-32 x 4-7 μ , flask-shaped and capitate to ventricose subcapitate. Caulocystidia 34-42 x 4-6 μ , cylindric-capitate, more or less scattered to aggregated. Cuticle of repent hyphae, often with pyramidal tufts of brown incrustated hyphae.

SM - 10427

GYMNOPIUS HUMICOLA

On humus, Grassy Patch, GSMNP, Tennessee, leg. Smith, det. Smith and
Harding, Aug. 22, 1938.

Spores 7-8.5(9) x 4.5-5 μ .

SM - 36430

GYMNOPIUS HUMICOLA

On soil, Cut River, Upper Peninsula, Mich., June 25, 1951.

Spores 7-8.5 x 4.5-5 μ .

SM - 36462

GYMNOPIIUS HUMICOLA

On conifer stump and humus, Douglas Lake, Mich., June 27, 1951.

Spores 6.5-8.5 x 4-5 μ .

SM - 36690

GYMNOPIUS HUMICOLA

On soil, near pine, Cross Village, Mich., July 6, 1951.

Spores 6-8(9) x 4-5 μ .

SM - 36880

GYMNOPILUS HUMICOLA

On humus, Tahquamenon, Mich., July 16, 1951.

Spores 6.5-8(9) x 4-5 μ .

SM - 37093

GYMNOPILUS HUMICOLA

On soil, at base of conifer stump, Tahquamenon Falls area, Mich.,

July 23, 1951.

Spores 6-8 x 4-5 μ .

Sm-37429

GYMNOPIIUS HUMICOLA Sm. & Harding

CARD
PHOTO

On humus, near birch and hemlock, Tahquamenon Falls State Park, Michigan,
August 6, 1951.

(Card and Photo not seen)

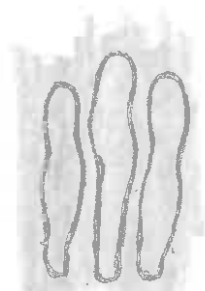
TYPE (No, not the type, even tho' it is.)

Spores (6) 7-8.5 x 4-4.5(5) μ , ellipsoid, a few subovoid, slightly inequilateral, verruculose, ferruginous in KOH, dextrinoid, no germ pore. Basidia 23-27 x 6-7 μ , 4-spored. Pleurocystidia 24-30 x 5-6 μ , ventricose; cheilocystidia 23-28 x 4-5 μ , flask-shaped, capitate (rarely non-capitate). Gill trama of subparallel hyphae, 3-6 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle fibrillose, with bundles of brown, incrustated hyphae, the terminal elements as pileocystidia, 28-53 x 7-12 μ , cylindric or ventricose, colorless or pale-brown. Caulocystidia 26-37 x 4-6 μ , flask-shaped, capitate, scattered. Clamp connections present. Yellow pigment, soluble in KOH, present in gill trama.

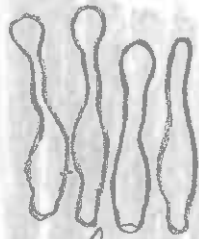
legitimate publication. He designated a collection (no number) from east shore of Quet Lake, Mich., July 3, 1953. This (type) is in the Jordan Herb. Their collection is not published in 1961, and

Gymnopilus humicola

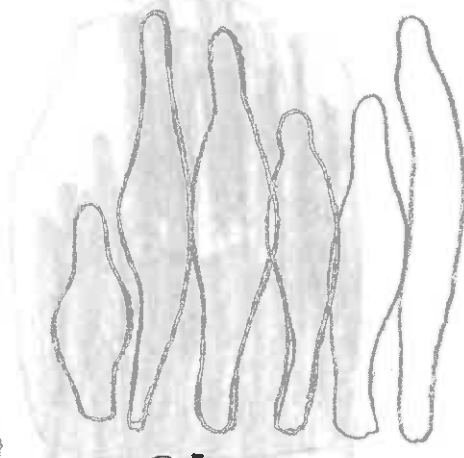
~~Spec~~ (Sm - 37429)



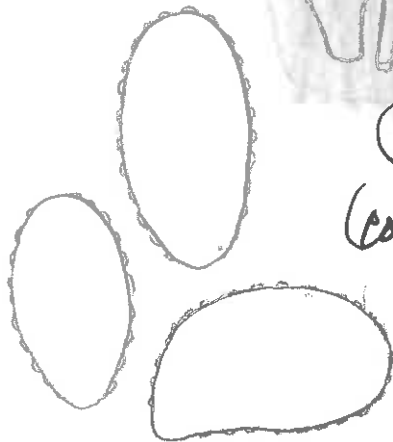
Gl - x 1000



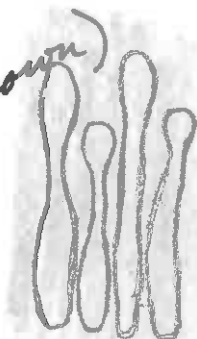
Ch - x 1000



Pileo - x 1000
(colorless to pale-brown)



Spores - x 4000



Caulo -
x 1000

SM - 37801

GYMNOPIUS HUMICOLA

On sandy humus, Tahquamenon Falls area, Mich., Aug. 13, 1951.

Spores 6-8 x 4-5 μ .

Sm-42604

GYMNOPILUS HUMICOLA

Tahquamenon, Sept. 11, 1953

Spores 7-8.5 x 4-4.5 μ , dextrinoid (near "Vandyke red," "madder brown" to "brick red,") at once. Pleurocystidia, cheilocystidia, cuticle, etc. as in Sm-42669.

Sm-42669

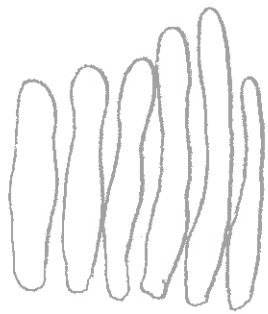
GYMNOPIUS HUMICOLA

On very rotten hemlock, West Br. Maple River, ^{Mich.} Sept. 14, 1953
^

Spores 7-9 x 4.5-5 μ , ellipsoid or subovoid in face view, slightly inequilateral in profile, verruculose, ferruginous in KOH, dextrinoid at once, no germ pore. Basidia 22-28 x 6-7 μ , (2)4-spored. Pleurocystidia 26-40 x 4-7 μ , ventricose to subcylindric, often projecting; cheilocystidia 22-32 x 3-5 μ , flask-shaped, capitate (rarely forked). Gill trama of subparallel hyphae, 4-8 μ broad; subhymenium not distinctive. Pileus trama of radial, slightly interwoven hyphae. Cuticle of brown, repent hyphae, with mounds of brown, incrusted hyphae. Clamp connections present. Caulocystidia 28-52 x 4-7 μ , ventricose, obclavate, capitate or non-capitate, forming a turf.

Gymnopilus hemicola

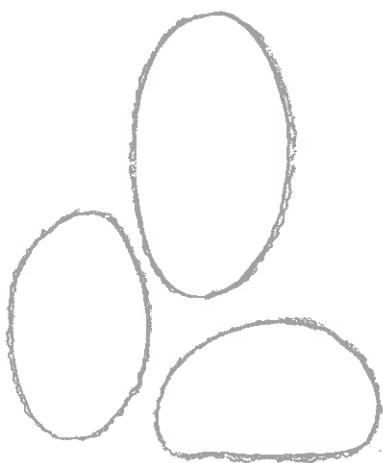
Sm - ~~#59A~~ 42669



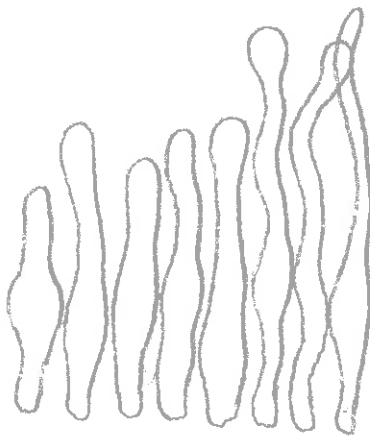
Sp - x 1000



Ch - x 1000



Spores - x 4000



Caules - x 1000

Sm-46526

GYMNOPILUS

humicola

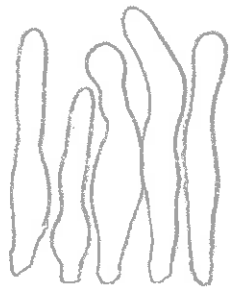
On soil, Papoose Creek, 7-Devils, Idaho, August 23, 1954,
leg. Smith and Bigelow (labelled G. sticticus).

Spores 7-8 x 4.5-5.5 μ , ellipsoid or ovoid in face view, slightly inequilateral in profile, verruculose (at times subspinulose), no germ pore, ferruginous in KOH, dextrinoid at once. Basidia 25-33 x 7-8 μ , (1)2-4-spored. Pleurocystidia 26-38 x 4-7 μ , filamentous to subventricose or ventricose, non-capitate, or rarely subcapitate; cheilocystidia similar, 23-32 x 4-6 μ , Gill trama of subparallel hyphae, 3-6 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle a zone of colorless hyphae, some of them incrustated. Hypodermium not differentiated. Pileocystidia none. Caulocystidia 18-46 x 2-3 μ , filamentous, scattered, erect, colorless. Clamp connections present (on caulocystidia and epidermal hyphae of pileus and stipe).

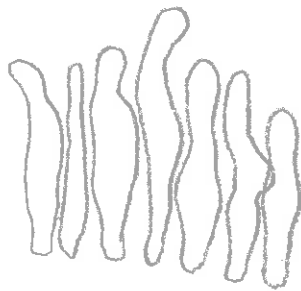
This is not G. sticticus (as labelled).

Gymnopilus humicola

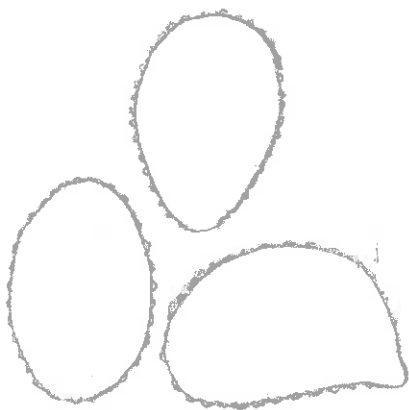
Sm - 46526



Pl - x 1000



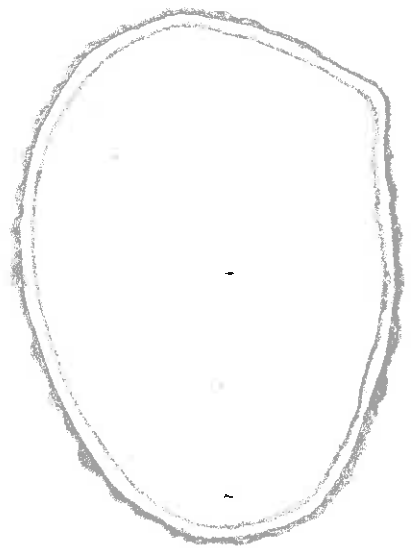
Ch - x 1000



Spores - x 4000



Caulo -
x 1000



Spore - x 8000

Sm-49695

GYMNOPILUS HUMICOLA

Tahquamenon, July 2, 1955

Spores 7-9 x 4-4.5 μ , dextrinoid at once. Caulocystidia scattered or dense (as in Sm-42669).

Sm-50101

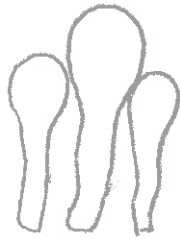
GYMNOPILUS HUMICOLA

Mich.
Pike Lake, [^]Aug. 11, 1955

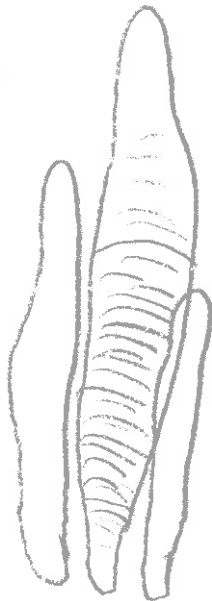
Spores 7-8.5(9) x 4-4.5 μ , dextrinoid at once (without
NH₄OH). Basidioles 22-30 x 7-10 μ , brown. Pleurocystidia
and cheilocystidia (as in Sm-42669). Pileocystidia 40-76 x
6-12 μ , as terminal elements of epicuticular hyphae, brown,
sometimes incrusted, cylindric to subventricose.

Gymnopilus hemicola

Sm - 50101
5#



Basidioles -
x 1000



Pileo (as
terminal elements) -
x 1000

Sm-73435

GYMNOPIIUS HUMICOLA

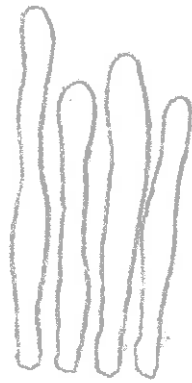
On conifer duff, _____ ? Wash., Sept. 16, 1966

Spores 7-8.5(9) x 4-4.5 μ , dextrinoid at once. Pleurocystidia 37-48 x 4-6 μ , clavate or subventricose, projecting; cheilocystidia 28-52 x 4-8 μ , flask-shaped, capitate.

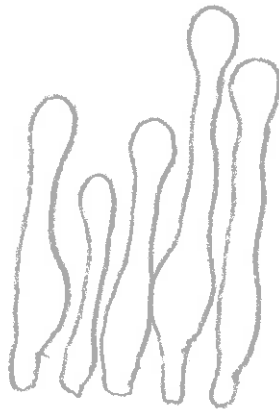
Caulocystidia as brown terminal elements, cylindric-capitate.

Symnophila humicola

Sm - 73435



Pl - x 1000



Ch - x 1000

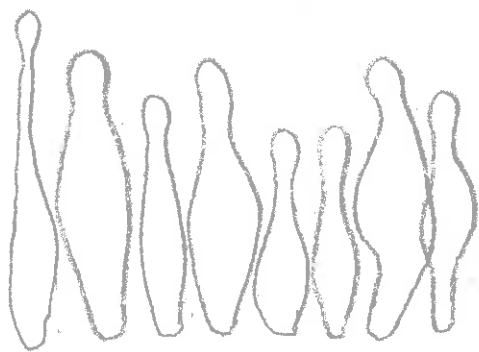
7. hybrida - 2
(Romell 14445)

is F. hybrida [G. hybridus (Fr. ex Fr.) Sing. F. sapinea var. hybrida (Fr.) Konr. & Maubl. Fulvidula hybrida Romagnesi].

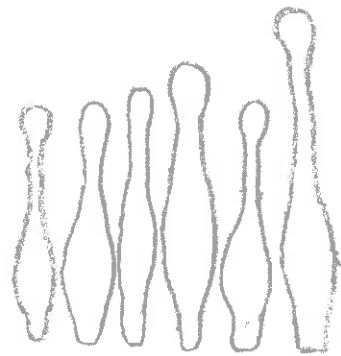
Lange distinguishes penetrans and hybrida, as follows: in pene-
trans the cap is chrome-yellow to golden; gills become spotted
rusty red; in hybrida the cap is yellowish fulvous becoming
bright ferruginous; gills not spotted.

Hammula hybrida

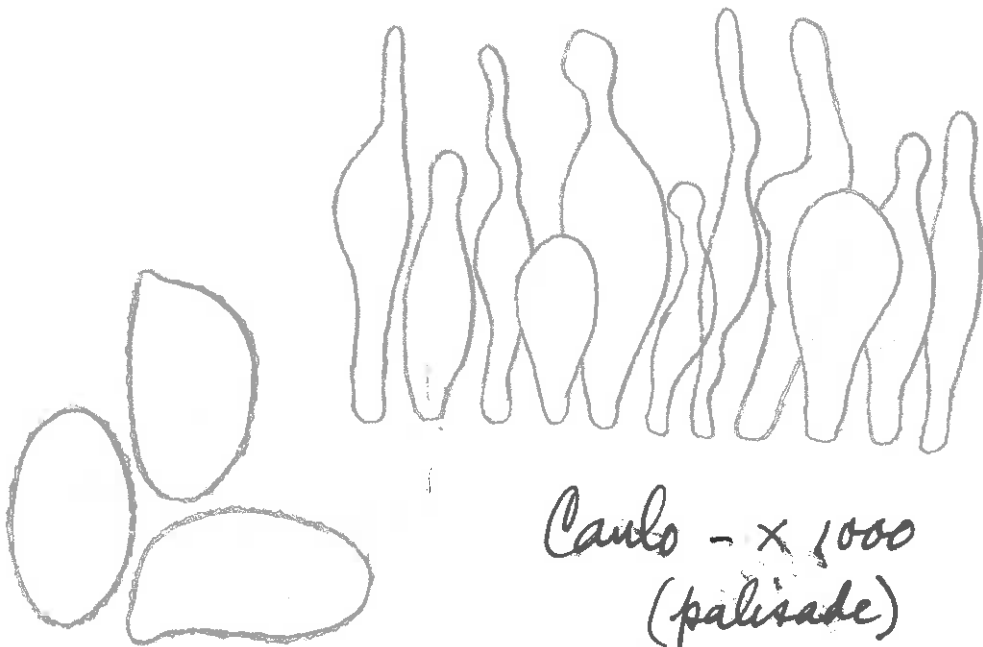
on pine stump, coll. Fündell + Mörmner, Oct. 16, 1924
 Herb. Mycolog. Fars Romell, No. 14445



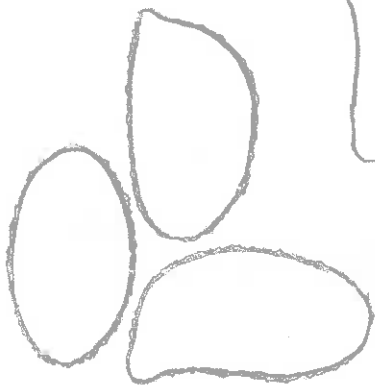
Pl - x 1000



Ch - x 1000



Caulo - x 1000
 (palisade)



Spores - x 4000



Ch. (from Bresadola, tab. 781)

FLAMMULA HYBRIDA

Coll. E. Ingelstrom, near Solna, Oct. 26, 1924; ex-Herb.
Mycolog. Lars Romell, No. 14446 (S)

Spores, and all other structures as in Romell's No.
14445, except that caulocystidia are less abundant in sections
examined.

Pilat, who examined *this collection,* called it F. penetrans var.
hybrida.

SM - 3850

GYMNOPILUS HYBRIDUS

Trinidad, Calif., Dec. 6, 1935, leg.-det. A. H. Smith.

Spores 7-8.5 x 4.5-5(5.5) μ . Pileus glabrous; pileus trama somewhat interwoven. This identification assumes that the veil was white.

Sm-63138

2.
GYMNOPIUS HYBRIDUS (?)

On conifer debris, Newcombe, Somerset, England, Sept. 15, 1960.

Smith states: no veil (if so, this is not hybridus).

Spores 7-9 x 4-4.5 μ , ellipsoid, inequilateral, verruculose, no germ pore, ferruginous in KOH, dextrinoid. Basidia 24-28 x 5-6 μ , 4-spored. Pleurocystidia 22-30 x 5-7 μ , somewhat variable: ventricose, obclavate, subfusoid; cheilocystidia 22-34 x 5-7 μ , flask-shaped, usually capitate, at times non-capitate. Gill trama of subparallel hyphae, 4-9 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae, with scattered mounds of brown in crusted hyphae. Pileocystidia none. Caulocystidia 23-32 x 3-5 μ , scattered, subventricose or slender flask-shaped, capitate. Clamp connections not found.

For hybridus, Bresadola (Tab. 781) says veil white, apical; Moser says veil white, covering (Überzug).

Lange, in his key, places hybrida and penetrans in Eu-Flammula: cap more or less distinctly velate:

1. Cap almost glabrous; dry
2. Cap chrome-yellow to golden; gills becoming spotted with rusty red penetrans
2. Cap yellowish fulvous, becoming bright ferruginous; gills not spotted hybrida

On conifer debris, Newcombe, Somerset, England, Sept. 15, 1960.

Smith states: no veil (if so, this is not hybridus).

Spores 7-9 x 4-4.5 μ , ellipsoid, inequilateral, verruculose, no germ pore, ferruginous in KOH, dextrinoid. Basidia 24-28 x 5-6 μ , 4-spored. Pleurocystidia 22-30 x 5-7 μ , somewhat variable: ventricose, obclavate, subfusoid; cheilocystidia 22-34 x 5-7 μ , flask-shaped, usually capitate, at times non-capitate. Gill trama of subparallel hyphae, 4-9 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae, with scattered mounds of brown in crusted hyphae. Pileocystidia none. Caulocystidia 23-32 x 3-5 μ , scattered, subventricose or slender flask-shaped, capitate. Clamp connections not found.

For hybridus, Bresadola (Tab. 781) says veil white, apical; Moser says veil white, covering (^hüberzug).

Lange, in his key, places hybrida and penetrans in Eu-Flammula: cap more or less distinctly velate:

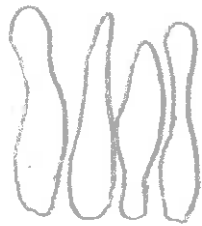
1. Cap almost glabrous; dry
2. Cap chrome-yellow to golden; gills becoming spotted with rusty red penetrans
2. Cap yellowish fulvous, becoming bright ferruginous; gills not spotted hybrida

MOSER (pp. 172-173):

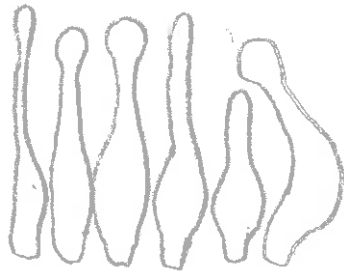
8. *Cystidia* capitate. Lamellae not spotted fox-red. Cap orange-red, subglobose to convex, 3-8 cm. Stipe yellow, reddish downward, when young with a white silky veil covering. Spores 7-9 x 3.5-4.5 μ G. hybridus
8. *Cystidia* vesicular. Lamellae yellow, red-spotted in age. Cap reddish yellow, 4-8 cm, at times irregular. Stipe pale-yellow. Veil evanescent. Spores 8-9 x 4-5 μ . Lange Fig. 121 G G. penetrans (Fr.) Murr.

Gymnopilus hybridus (?)

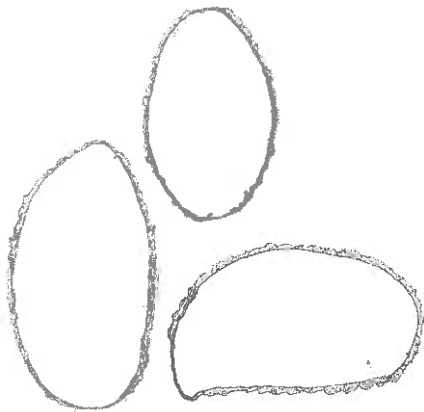
Sm - 63138, from England



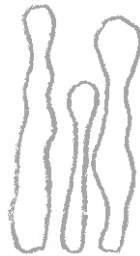
Pl. x 1000



Ch. - x 1000



Spores - x 4000



Cauls -
x 1000

22444

GYMNOPILUS HYBRIDUS

On deciduous log, Sparta, Tenn., leg. A. J. Sharp, Oct 20 - '56

Pileus 3-7 cm broad, hemispheric, expanding plane, hygrophanous, rusty brown (not matched), appressed fibrillose, at times appearing glabrous, the surface finally cracking and becoming areolate, the areolae bearing mounds, margin even. Context medium thick in disc, thin on margin, buff (not matched); odor mild, taste bitter.

Lamellae adnexed, close, broad, rusty brown (not matched), dark red in 2% KOH, edges eroded.

Stipe 1.5-3 cm long, 5-10 mm thick, fibrillose, dingy brown, tough, solid, equal. Veil white, very slight, fugacious.

Spores 6-8 x 4-5 μ , ellipsoid or subovoid face view, slightly inequilateral in profile, verruculose, ferruginous in KOH, dextrinoid, germ pore none. Basidia 25-32 x 5-6 μ , 4-spored. Pleurocystidia 23-28 x 4-6 μ , ventricose (more rarely similar to cheilocystidia); basidioles, 20-25 x 4-6 μ , clavate; cheilocystidia 20-32 x 3-6 μ , flask-shaped, or ventricose, more or less capitate. Gill trama of subparallel hyphae, 4-10 μ broad; subhymenium not distinctive. Pileus trama of interwoven hyphae. Cuticle a zone of repent, dark-brown hyphae, bearing numerous mounds of brown hyphae. Pileocystidia 20-26 x 3-7 μ , flask-shaped, clavate, colorless, scattered on the surface of the mounds. Caylocystidia 25-40 x 3-5 μ , filamentous to subventricose. Clamp connections present.

Near G. liquiritiae which has larger spores, 7.5-9(10) x 4-5(6) μ , and radial pileus trama.

Gymnopilus hybridus

Term - 22444

